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Architectural Appointments Wanted and Vacant

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★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ig to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square,	Sloane 1601/3158
IIBD	Incorporated Institute of British Decorators. Drayton House, Gordon Street, W.C.1.	Euston 2450
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1.	Museum 1783
I of Arb	Institute of Arbitrators. 35/37, Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7197/5176
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.	Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128
IWA	Inland Waterways Association. 14, Great James' Street, W.C.2.	Chancery 7718
LIDC	Lead Industries Development Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
MARS	Modern Architectural Research Group (English Branch of CIAM). Secretary: Gontran Goulden, Building Centre, 26, Store Street, W.C.1.	Museum 5400
MOA	Ministry of Agriculture and Fisheries. 55, Whitehall, S.W.1.	Whitehall 3400
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1.	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James' Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalte Mine-Owners and Manufacturers Council. 94-98, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 4813
NBR	National Buildings Record. 37, Onslow Gardens, S.W.7.	Kensington 8161
NCBMP	National Council of Building Material Producers, 10, Princes St., S.W.1.	Abbey 5111
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 13, Suffolk St., S.W.1.	Whitehall 1693
NHBRC	National House Builders Registration Council. 82, New Cavendish Street, W.1.	Langham 4341
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NSA	National Sawmilling Association. 14, New Bridge Street, E.C.4.	City 1476
NSAS	National Smoke Abatement Society. Chandos House, Buckingham Gate, S.W.1.	Abbey 1359
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Edinburgh 20396
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1.	Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 22A, Queen Anne's Gate, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSI	Royal Sanitary Institute. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SCR	Society for Cultural Relations with the USSR. 14, Kensington Square, London, W.8.	Western 1571
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.	Mansion House 3921
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1.	Langham 7616
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1.	Langham 1984
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen.	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4.	City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4.	City 5051
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1.	Whitehall 4341
ZDA	Zinc Development Association. Lincoln House, Turl Street, Oxford.	Oxford 47988

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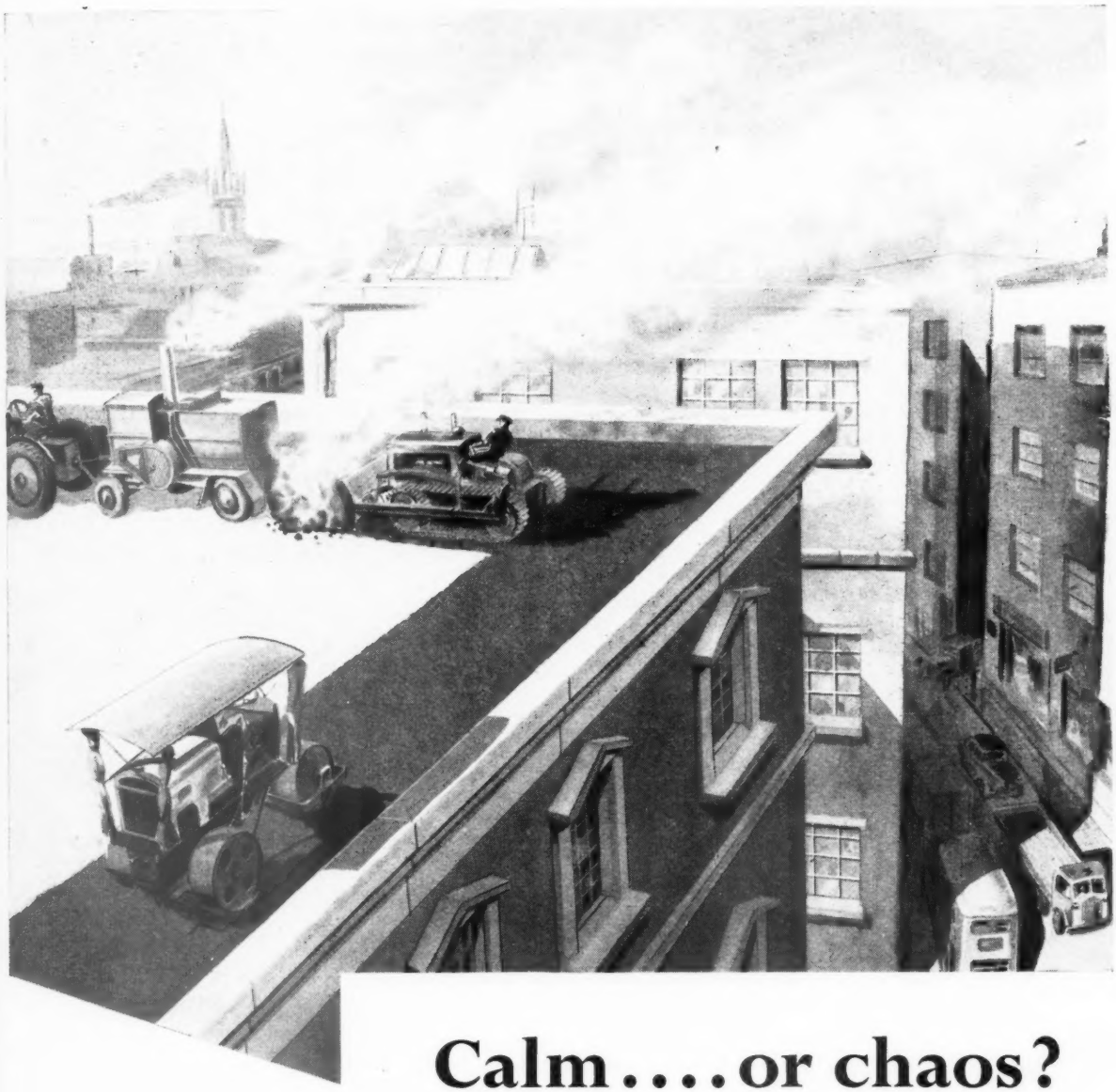
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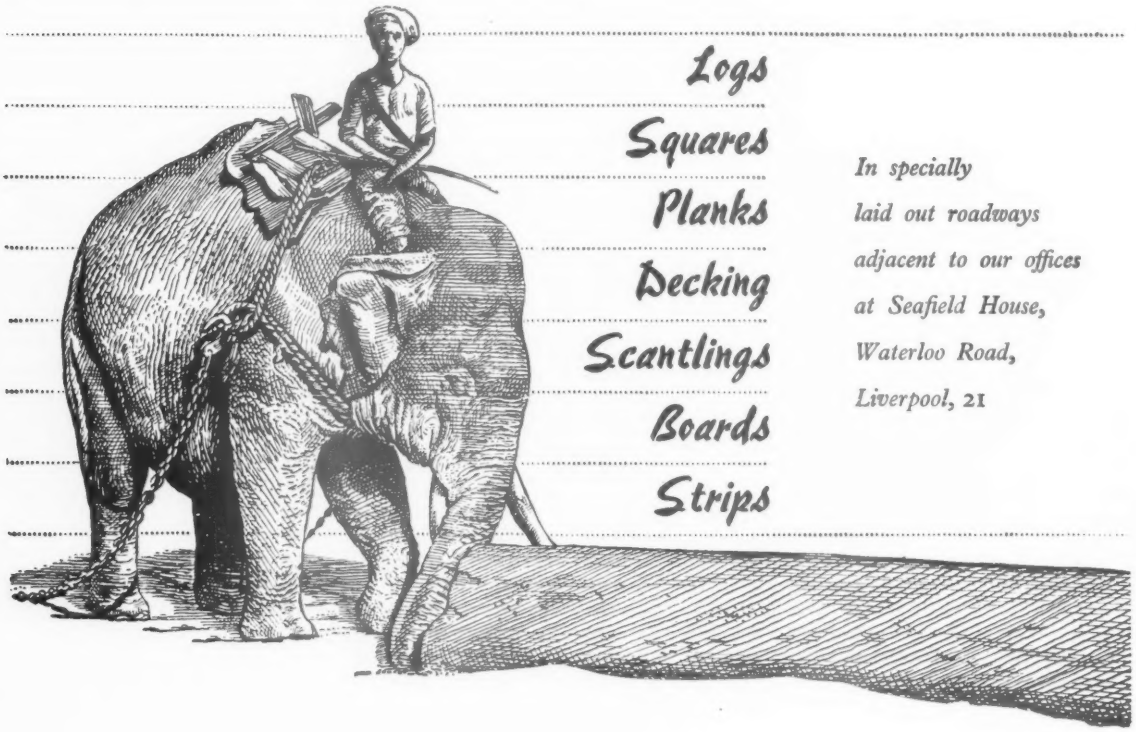
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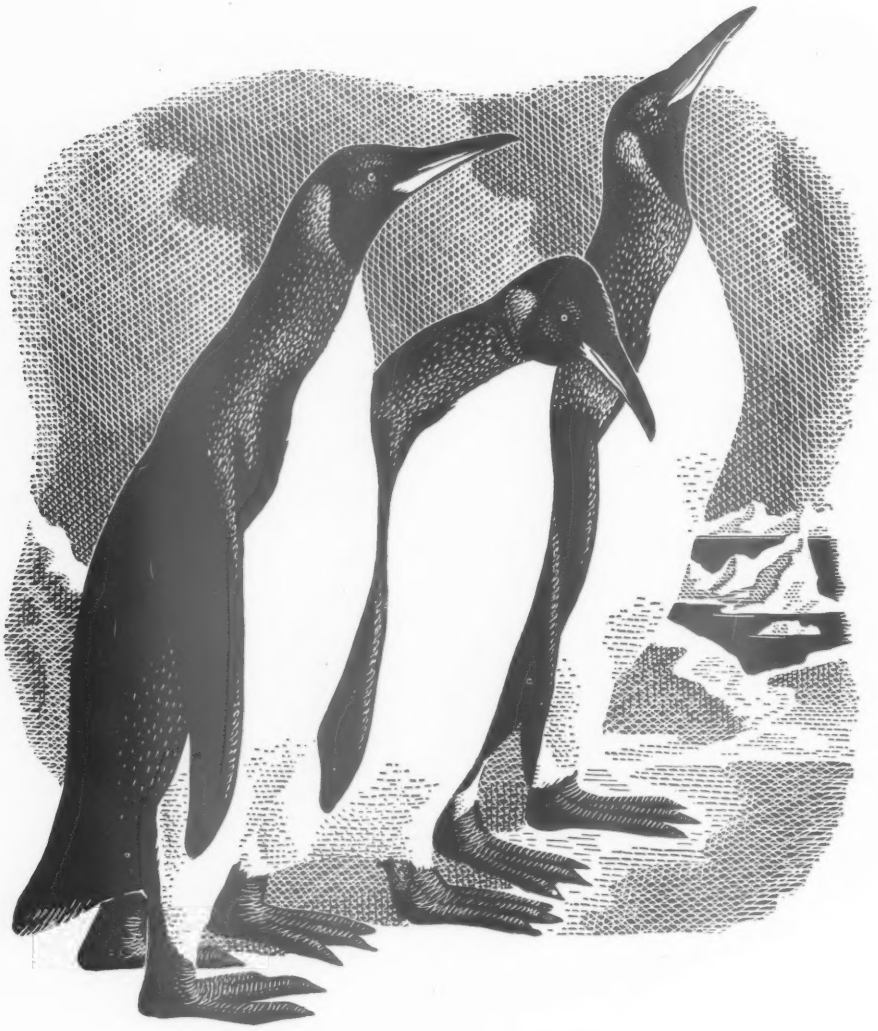
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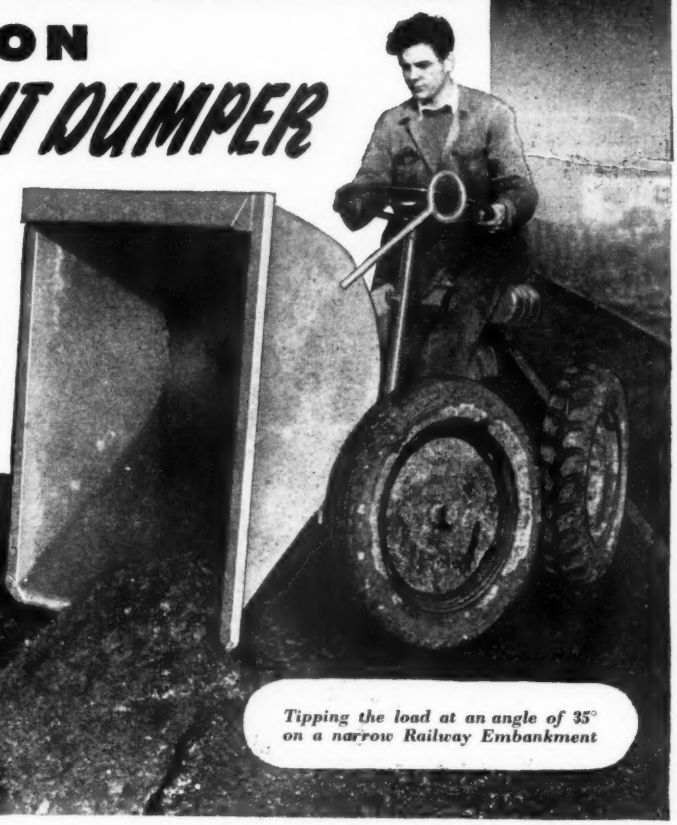
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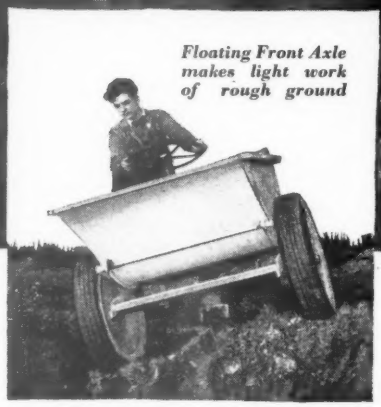
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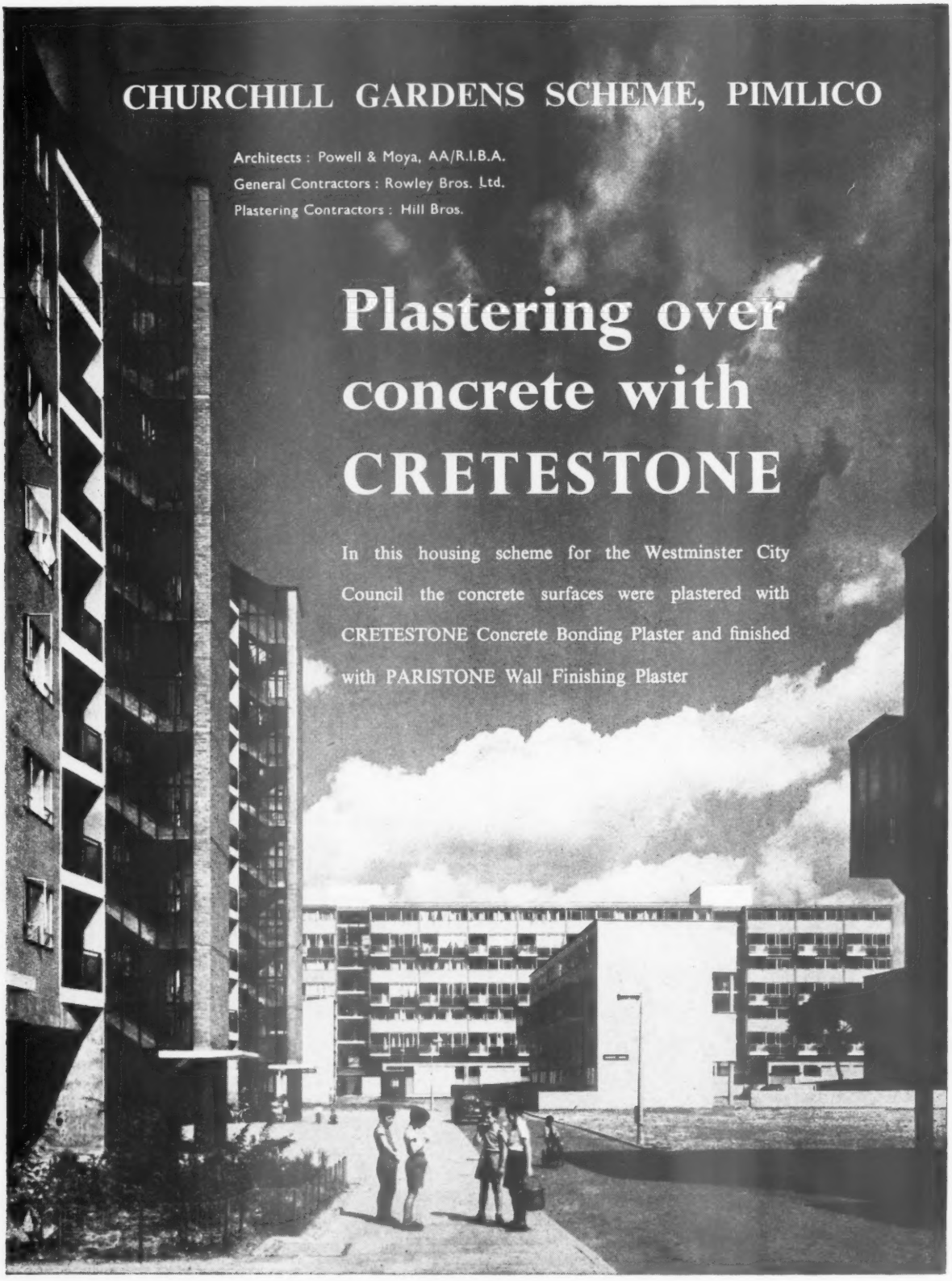


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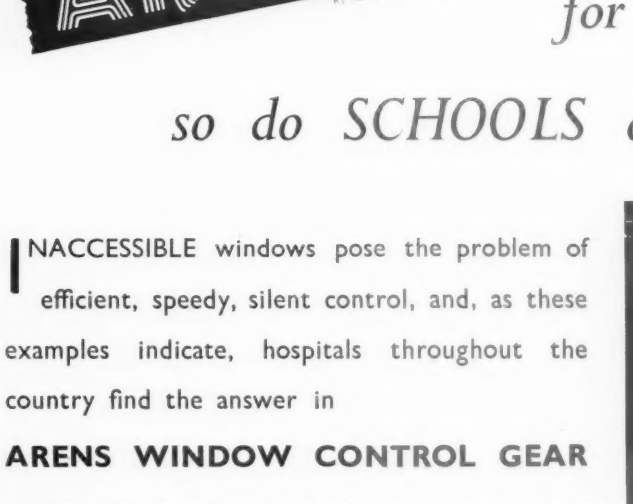
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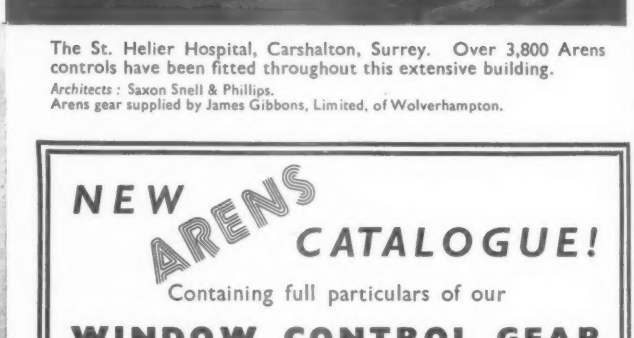
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DOMESTIC ELECTRIC WATER HEATING

SELF-CONTAINED ELECTRIC WATER HEATERS (1)

The Basic Problem

The water heating service that has to be provided for the majority of households today consists in supplying hot water to not more than three or four taps — bath, basin, sink, and perhaps an additional basin in a bedroom or cloakroom — for the use of from two to six people, both children and adults. The installation must be simple and economical, with running costs strictly governed by the quantity of hot water used, and no maintenance.

Two Satisfactory Solutions

There are two ways in which the problem can be satisfactorily solved and both make use of electricity. In the first, electricity is employed as the sole means of heating the water, in the second it operates in conjunction with solid fuel in order to ensure a constant supply of hot water without the necessity for lighting a fire during the summer. In both cases experience has shown that the best results are obtained by the storage method whereby hot water is stored in a tank or cylinder fitted with an electric heating element : the capacity of the tank and the loading of the heater are proportioned to the requirements of the household with sufficient heat energy to meet an intermittent demand for varying quantities of hot water.

Storage Temperatures and Capacities

The quantity of hot water stored and its temperature may be considered as complementary, the higher the temperature the smaller being the quantity of water required (within limits). In practice it is not found advisable to store water at temperatures above 160°F. for soft water, or 140°F. for hard as scale deposit becomes serious above this temperature; the standing losses also reach an uneconomical figure (see WH.2.) and waste may occur in cooling down water for washing.

The minimum desirable storage capacities depend on these facts and the average weekly consumption of hot water in a "typical" household which can be based on the table at the top of the adjoining column. Any special requirements as to usage of hot water should be ascertained at an early stage so that economical means of meeting them can be worked out before the installation is put in hand. Generally speaking it is inadvisable to store less than 18 gallons at 160°F. or 20 gallons at 140°F. (the latter being the lowest effective temperature for hot water at the sink) unless the household requirements are known to be modest in this respect.

The Main Types of Factory-Made Self-Contained Heaters

Electric water heaters suitable for most domestic requirements can be selected from the wide range of factory-made self-contained units available; particulars are given in the adjoining tables. All have the advantages of correct design, high-class construction and finish, and very efficient thermal insulation. They are fitted with one or two thermostatically controlled heating elements as required, and are not likely to be seriously affected by frost. As the heating elements are completely immersed, heat transference to the water is always 100%, even if the elements become encrusted with scale, because there is no other outlet for the heat. That is to say they perform with maximum efficiency whatever the hardness (or softness) of the public water supply with perfect safety.

These self-contained units are manufactured in non-pressure and pressure types, there being two forms of each.

Non-Pressure Types

All heaters of this type have to be fixed above the highest draw-off point. The open-outlet type is designed to serve only one fitting at a time, be it bath, basin or sink, and as its name implies,

1

Use	Quantities	Initial Temp.	Gallons required at 140°F.	Gallons required at 160°F.
Hot bath	25 galls.	110°F.	16.2	13.4
Handwashing	1 gall. per usage	110°F.	0.68	0.53
Dishwashing	1 gall. per meal	140°F.	1.00	0.82
House and floor cleaning	2 galls. per day	140°F.	2.00	1.64
Laundry	10 galls. per week	140°F.	10.00	8.20

These figures assume a cold water temperature of 54°F. which is the official average over the whole year.

2 ELECTRIC WATER HEATERS NON-PRESSURE OPEN OUTLET TYPE



Capacity in galls.	1½	3	5	12	15	20
Standard Loadings, kW.	0.75	1.00	1.00	1.50	1.50	2.00
Height ins. (H)	26½	35	38½	47½	57½	59½
Diam. ins. (D)	11	13	14	18	18½	20½
Bottom Clearance (ins.)	12	12	12	18	24	30

All models are fixed to walls : max. projection from wall face is diameter plus ¼". All dimensions given are maxima. Recommended top and side clearances 6 to 9 ins. according to type and size of heater : consult makers for all final particulars. 1½ gallon and 3 gallon models may be connected direct to water main : check local requirements with Water Supply Authorities.

3 ELECTRIC WATER HEATERS SINGLE ELEMENT PRESSURE TYPE

Capacity in galls.	12	15	20	30
Standard loadings, kW.	1.5	1.5	2.0	3.0
Max. o/a Height (ins.)	46½	56½	58½	61
Max. dia. (ins.)	18	18½	20½	24
Bottom clearance (ins.)	18	24	30	30
Mounting	Wall	Wall	Wall	Wall or floor

Other models with capacities of 40, 50, 60 and 100 gallons are available, all of floor mounting type with front entry horizontal heating elements. Cold supply from separate cistern. Vent pipe essential.

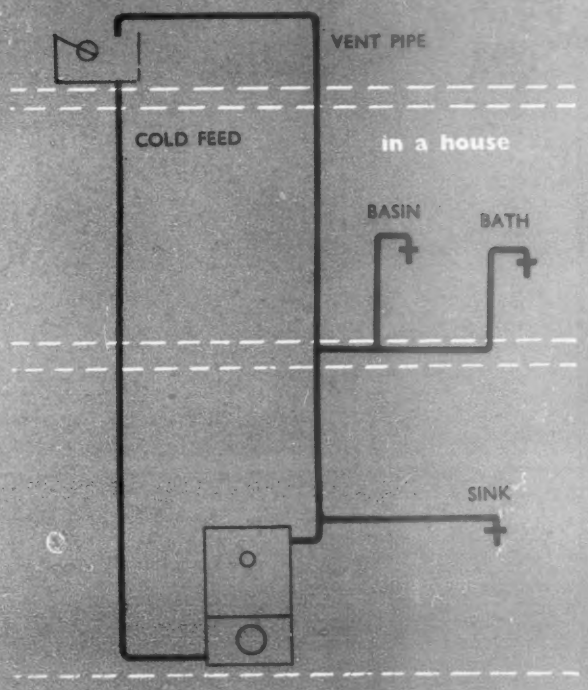
4 ELECTRIC WATER HEATERS DUAL ELEMENT PRESSURE TYPE

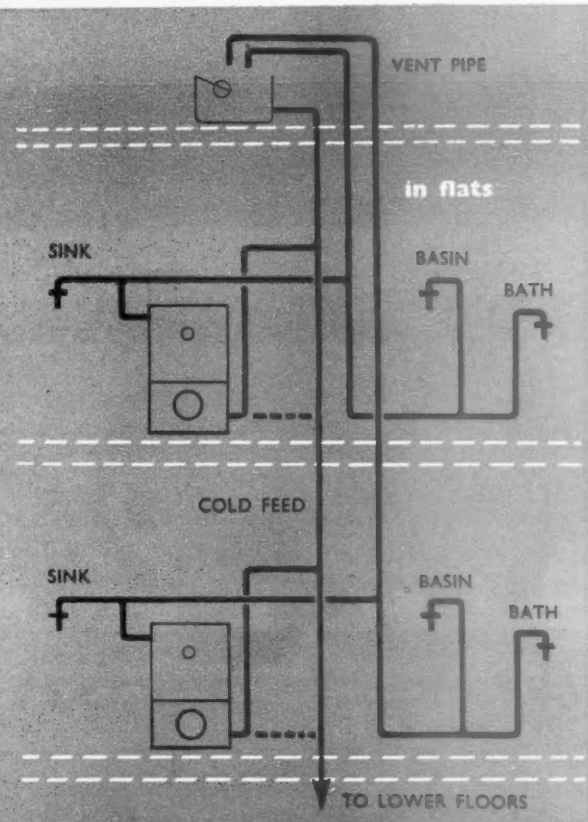
Capacity in Galls.	Loading kW. Top	Loading kW. Bottom	Height o/a ins.	Diam. ins.	Base Size ins.
20	½	2½	33	20	—
30	½	2½	47	20	—
35	½	2½	54	20	—
40	½	2½	61	20	—

All models are made with flat bases to stand on the floor. In some cases variation in loadings of heaters is possible, consult makers. Cold supply from separate cistern. Vent pipe essential.

W H.1

THE USE OF DUAL ELEMENT PRESSURE TYPE ELECTRIC WATER HEATERS





Note that cold feed to electric water heaters should branch from the downfeed at a point above the top of the heaters on upper floors (not as shown dotted) to prevent them from being emptied when a heater below is drained down.

is provided with an open outlet, usually in the form of a swivelling spout through which hot water flows when a tap on the cold inlet pipe is turned on to let water into the water heater. Capacities vary from 1½ to 30 gallons and all models should be fitted above the point of use, e.g., bath, basin, sink, washing machine, etc.: space should be made available where necessary for the withdrawal of the heating element which enters the storage vessel from the bottom.

Cistern type heaters are provided with an integral cold feed cistern immediately above the hot storage vessel from which it is insulated and into which the vent pipe discharges. Their application and installation will be discussed in WH.2.

Pressure Types

These heaters are designed for use when hot water is required from more than one tap at a time. All models are totally enclosed, and fed from the usual ball-valve cistern like a solid-fuel-operated system. They are very efficiently insulated and are provided with connections for the hot water draw-off pipe which is continued upwards to turn over above the ball-valve cistern as vent, and a drain cock. They will supply all the hot water needed for a house or flat, and can be installed at ground floor level, the larger sizes of heaters being designed to stand on the floor. Capacities vary from 12-100 gallons (see Table overleaf). Pressure type heaters are widely used, especially in the dual element form.

Dual Element Pressure Type Heaters

The 20 gallon size, which is most frequently used, is designed to stand under the draining board beside the sink, where it is nearest to the most frequently used tap in the house. In most cases one heating element of 500 watts loading, mounted in the upper part of the storage vessel, is permanently connected to the electricity supply, under control of its thermostat so as to provide about 6 gallons of hot water for general daily use. The lower heater of 2,500 watts is brought into use when larger quantities of hot water are required, e.g., for baths or laundry work, by operating a switch mounted on the heater. This arrangement, with efficient insulation and thermostatic control of both heaters and optional reduction in the quantity of hot water stored when demand is low, ensures the lowest possible consumption of electricity, especially when the heater is situated near the sink.

Installation of Factory-Made Self-Contained Pressure Type Water Heaters

With all domestic electric water heating systems, no waste of heat is possible in the transfer of energy from the electricity to the water, the heating unit being completely immersed. Waste of heat can and does occur, however, from the heated water to the surrounding air through the walls of pipes leading to the taps, and from the hot storage vessel if it is not efficiently insulated like a factory-made water heater. Thus only the position of the heater and the length of the draw-off pipes call for consideration: kitchen and bathroom should be either adjacent or one above the other. As this arrangement is also to be desired in the interests of drainage and plumbing economy no additional planning complications are involved. The essential point is that electrically heated water must not circulate or be used for warming the bathroom or linen cupboard. There is nothing to be gained by insulating the draw-off pipes. For heaters above 3 gallons capacity, connection to the electricity supply should be made through a 13 or 15 amp. socket-outlet, or the heater may be permanently connected through a switch fixed in a convenient position to cut off the current when required for maintenance purposes. The small heaters may be connected through a 5 amp. socket outlet suitably placed.

For further details apply to

W H.1 **British Electrical Development Association**

2 Savoy Hill, London, W.C.2. Temple Bar 9434

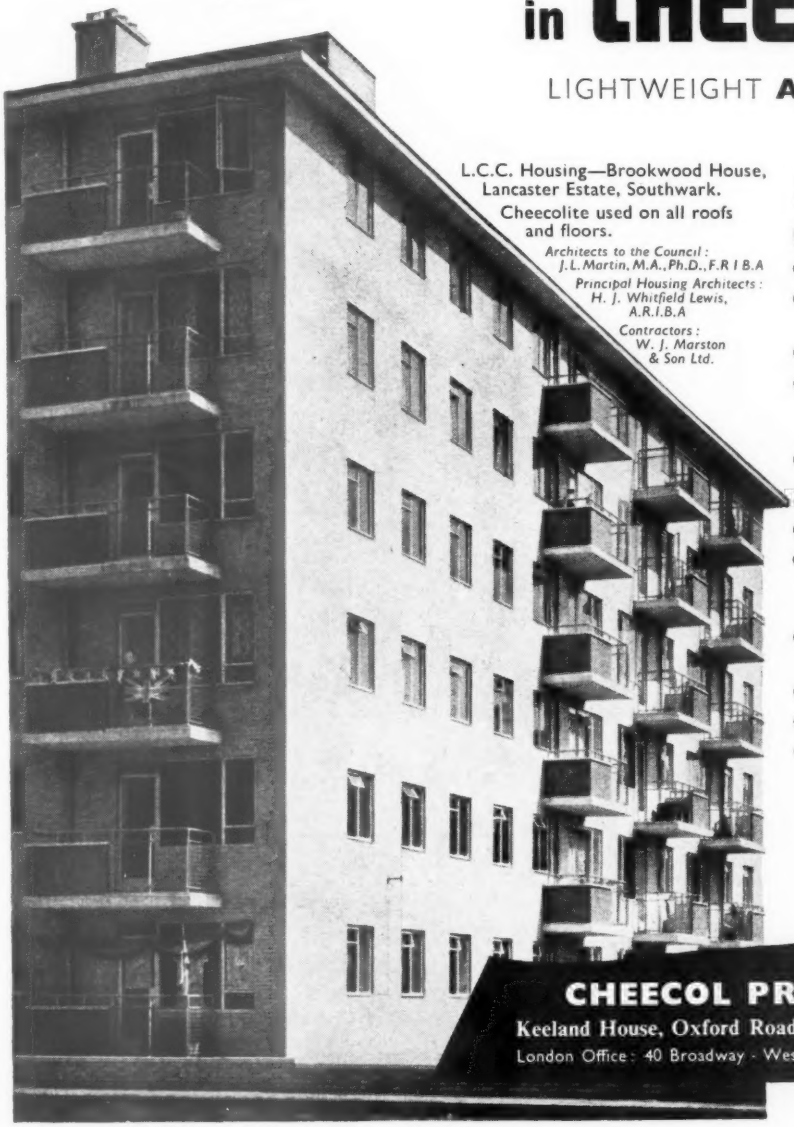
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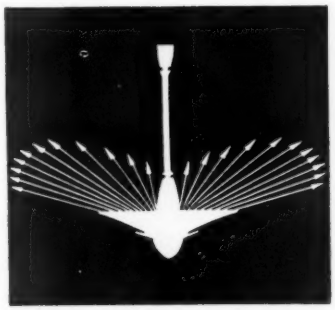
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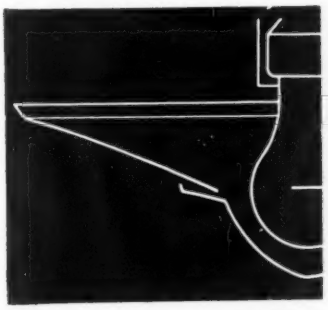
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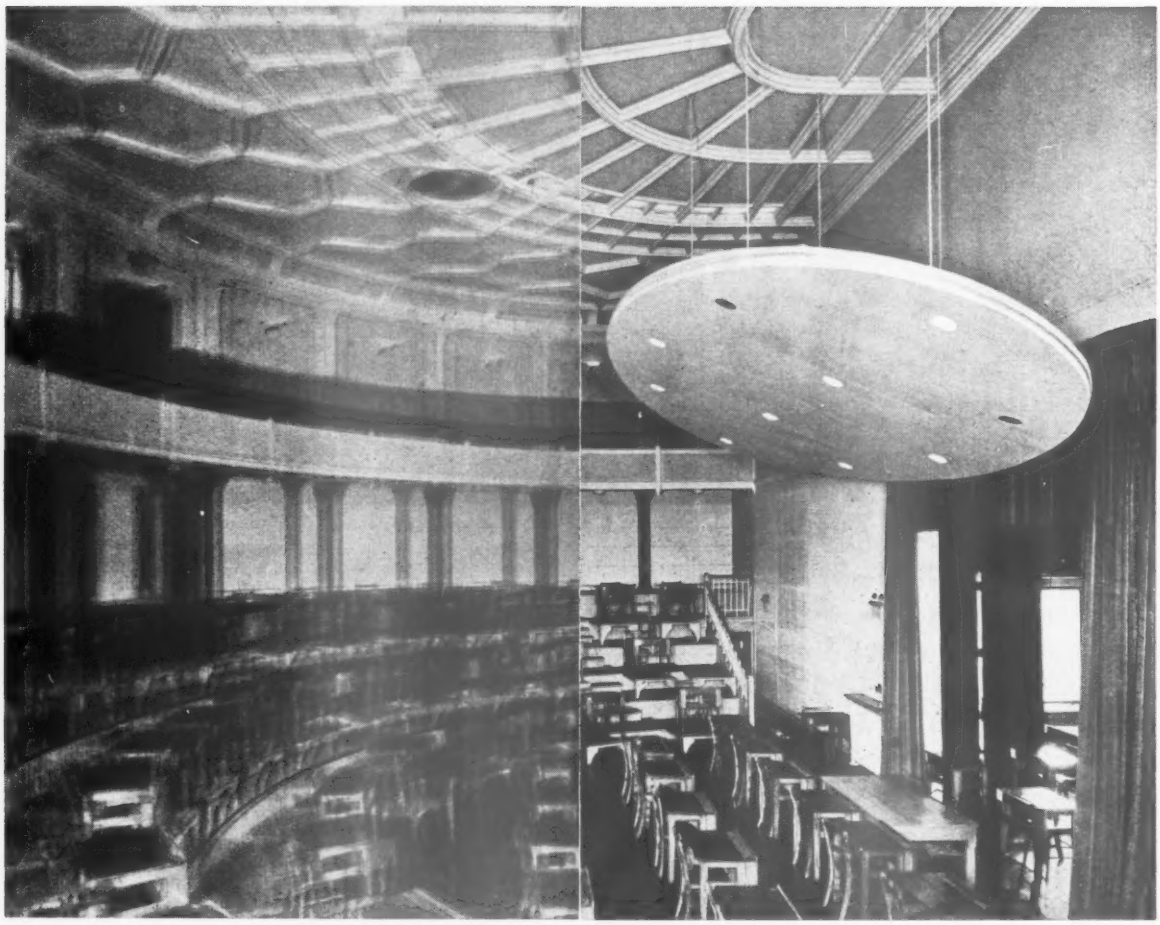
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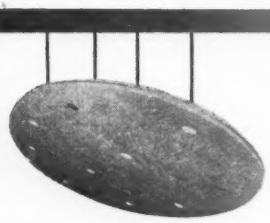
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* Paxtiles are manufactured of asbestos fibre, faced with a layer of asbestos millboard and then perforated.

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BY JOHN NASH R.A.

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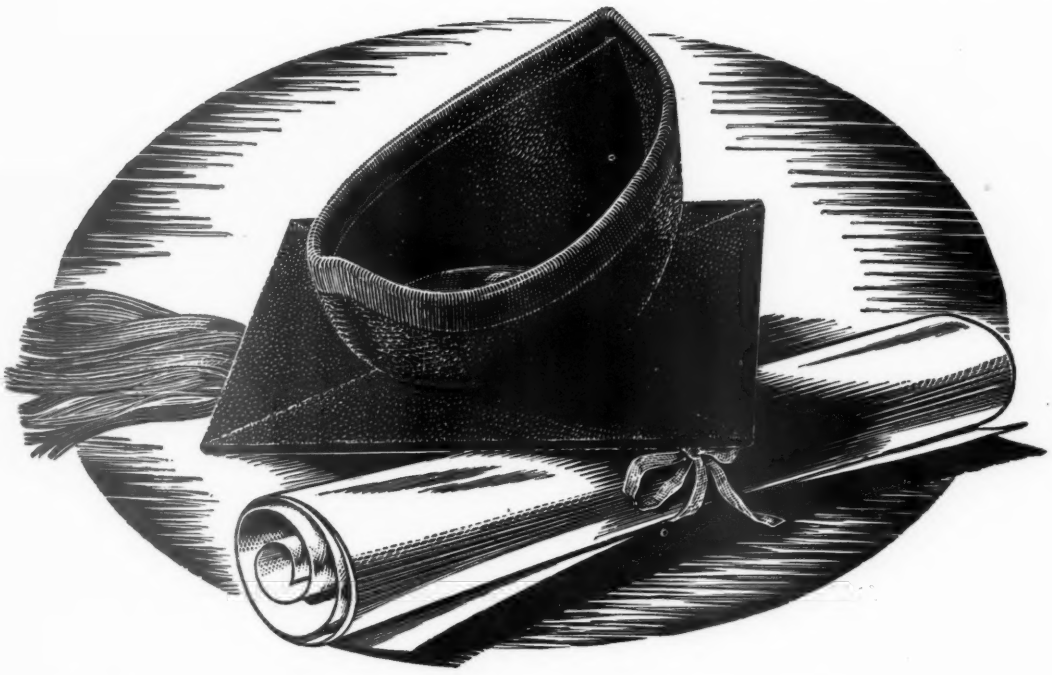
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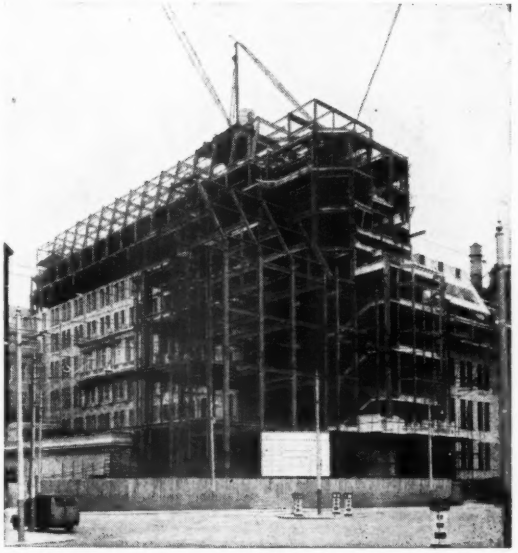






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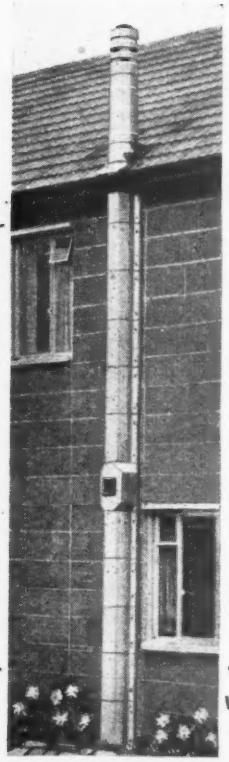
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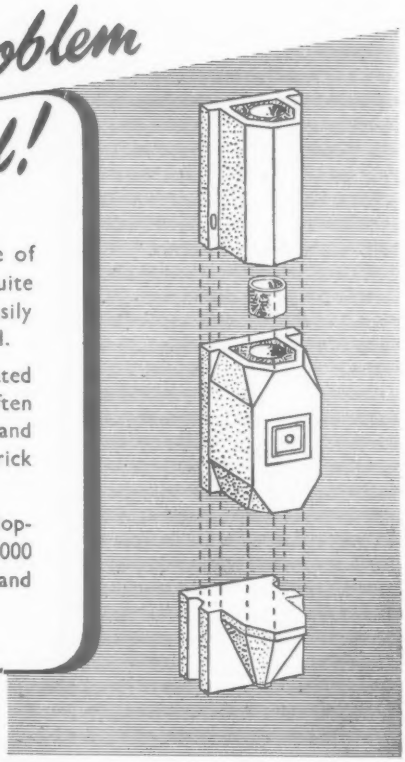


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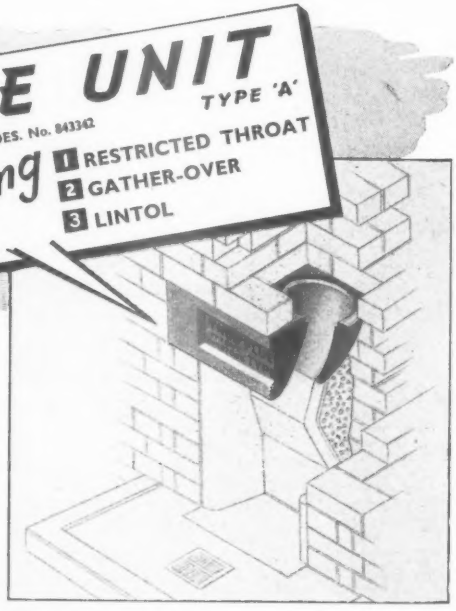
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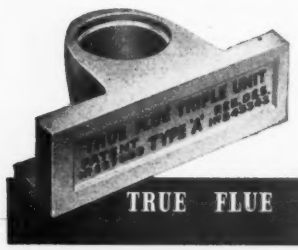
1 The Restricted Throat is scientifically designed to ensure maximum heat retention and economy in fuel.

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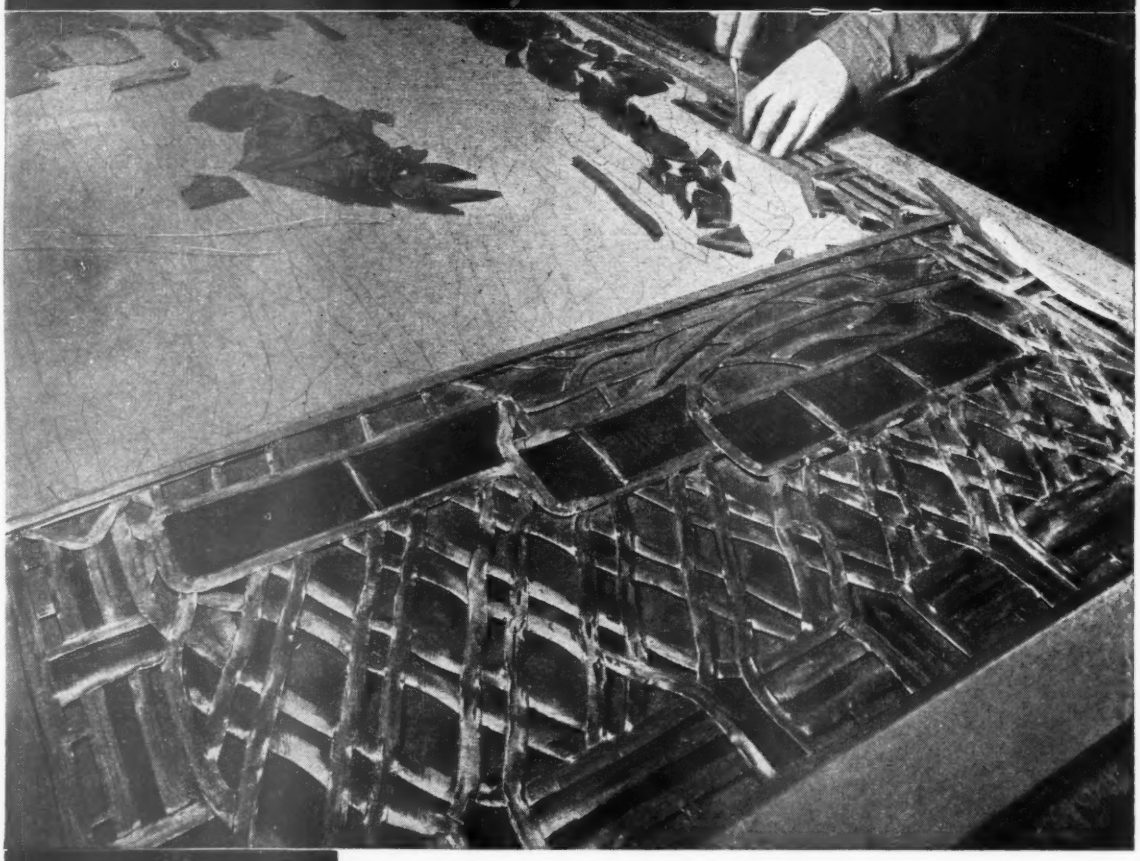


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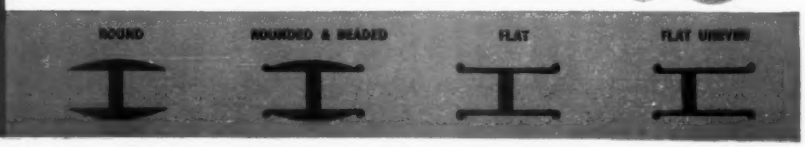
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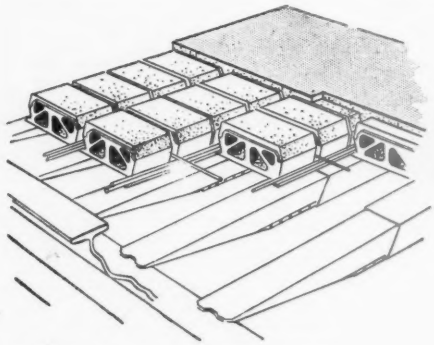
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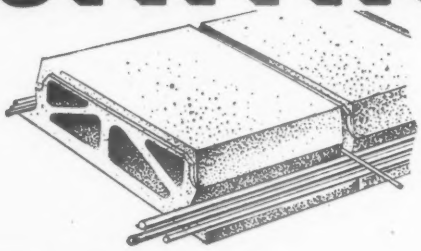




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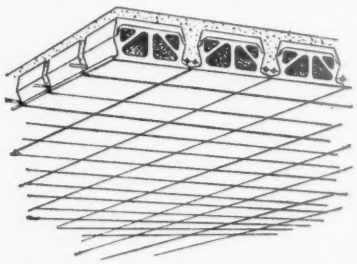
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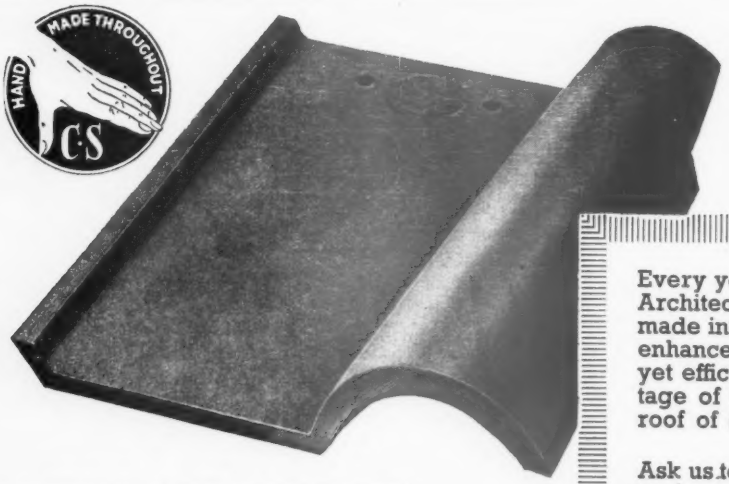
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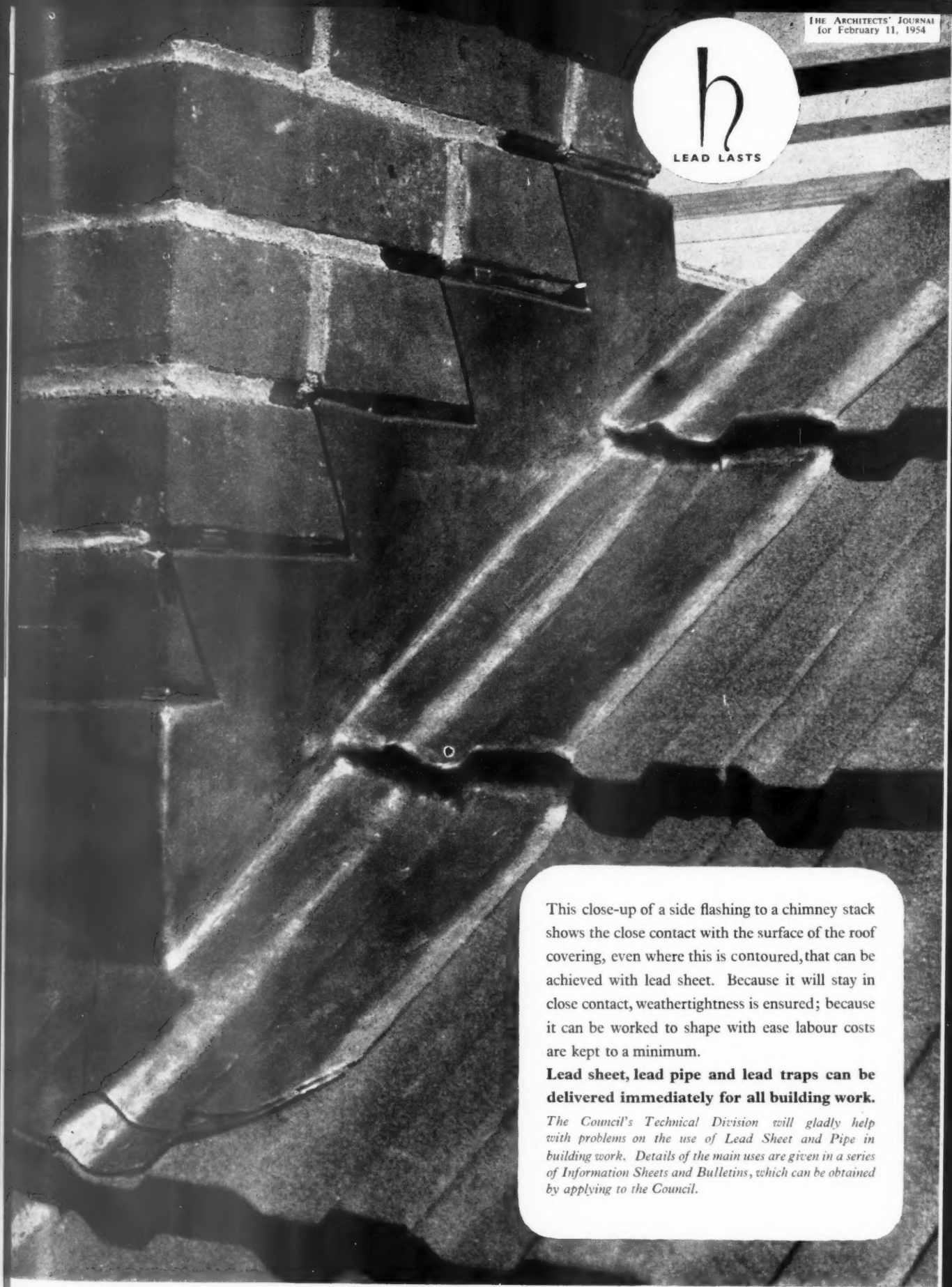
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Lead sheet, lead pipe and lead traps can be delivered immediately for all building work.

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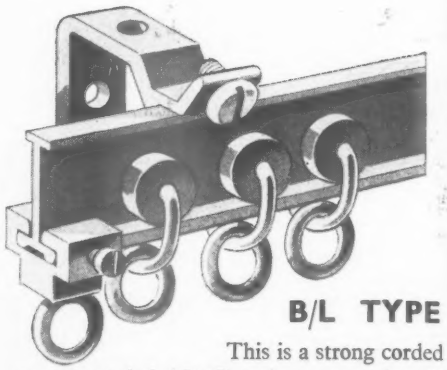
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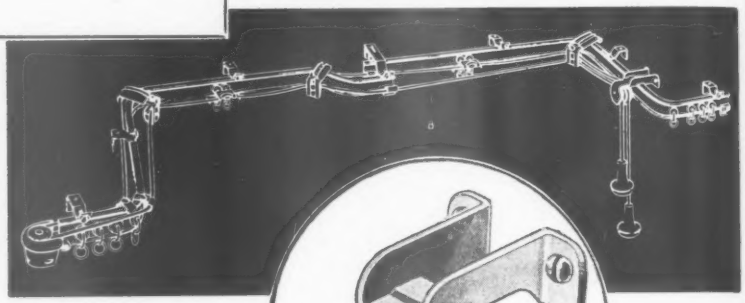
CURTAIN RUNWAY SYSTEMS

'Rufflette' Brand Runways, either corded or non-corded, are being increasingly used as landlord's fixtures in many new building schemes. Full details will be supplied on request.



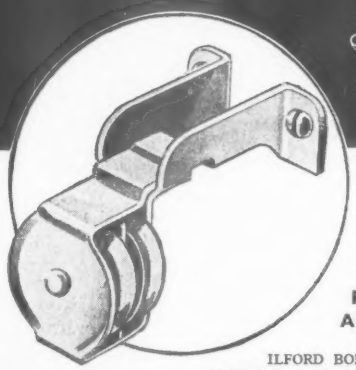
B/L TYPE

This is a strong corded or non-corded 'Rufflette' runway for all general purposes. Also available in plastic.



FOR BAY WINDOWS

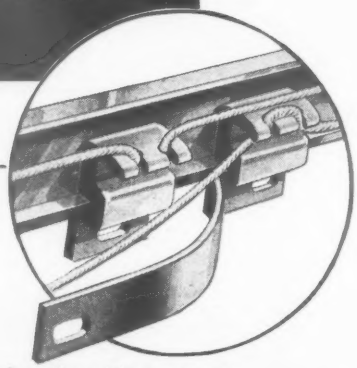
'Rufflette' Brand Curtain Runways have been developed for every curtain suspension need. Shown on right is the new cord-controlled 'Rufflette' runway for fitting to bay windows.



FOR STRAIGHT RUNS

For straight runs, curtains can be effortlessly opened or closed with this 'Rufflette' cord-controlled runway with sliding overlap arm. Brackets are top or face fixing, and are designed to save valuable fitting time and cost on the job.





** Note the curved travelling section which enables curtains to be overlapped without cutting rail.*

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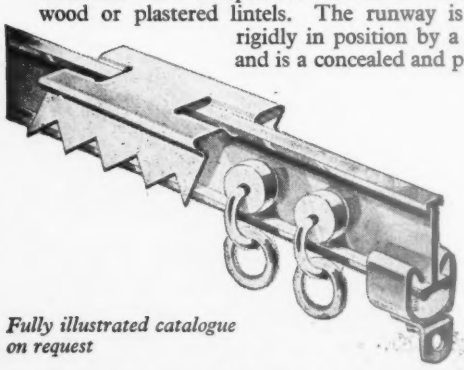
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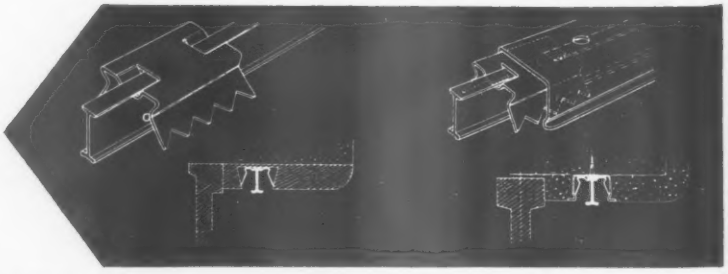
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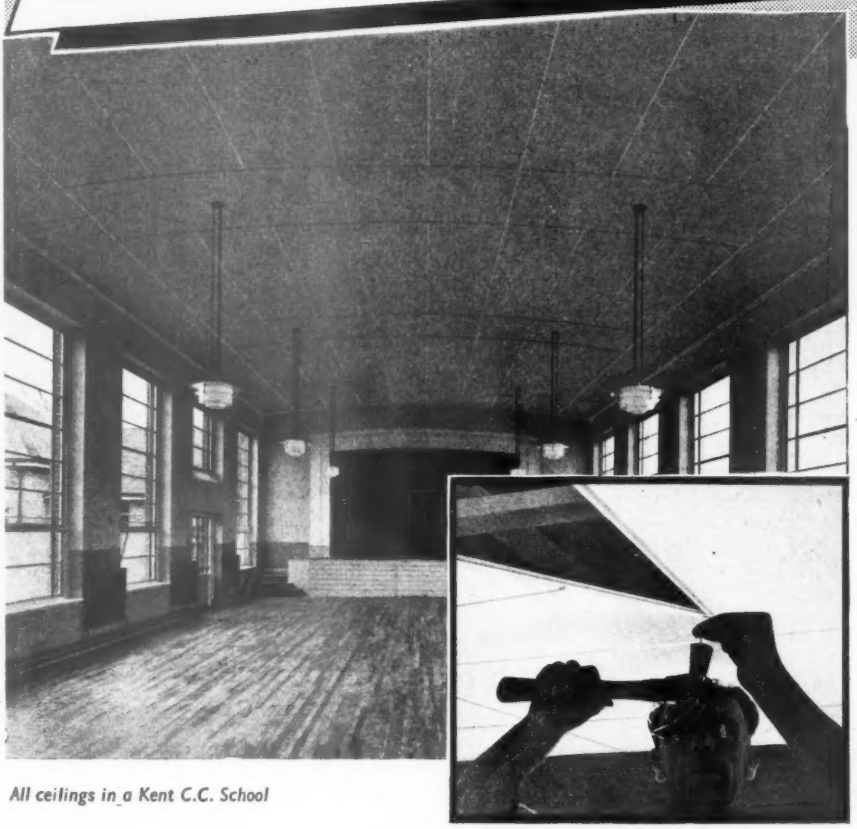


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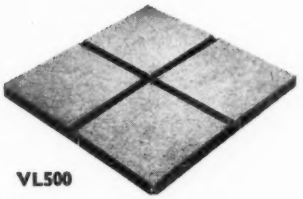
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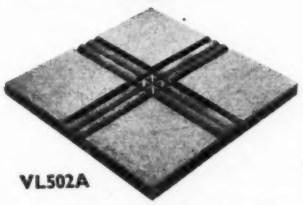


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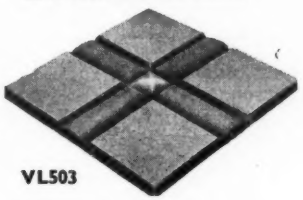


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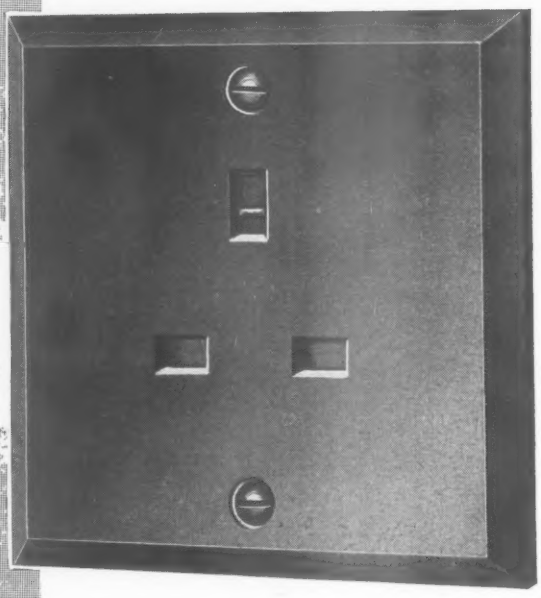
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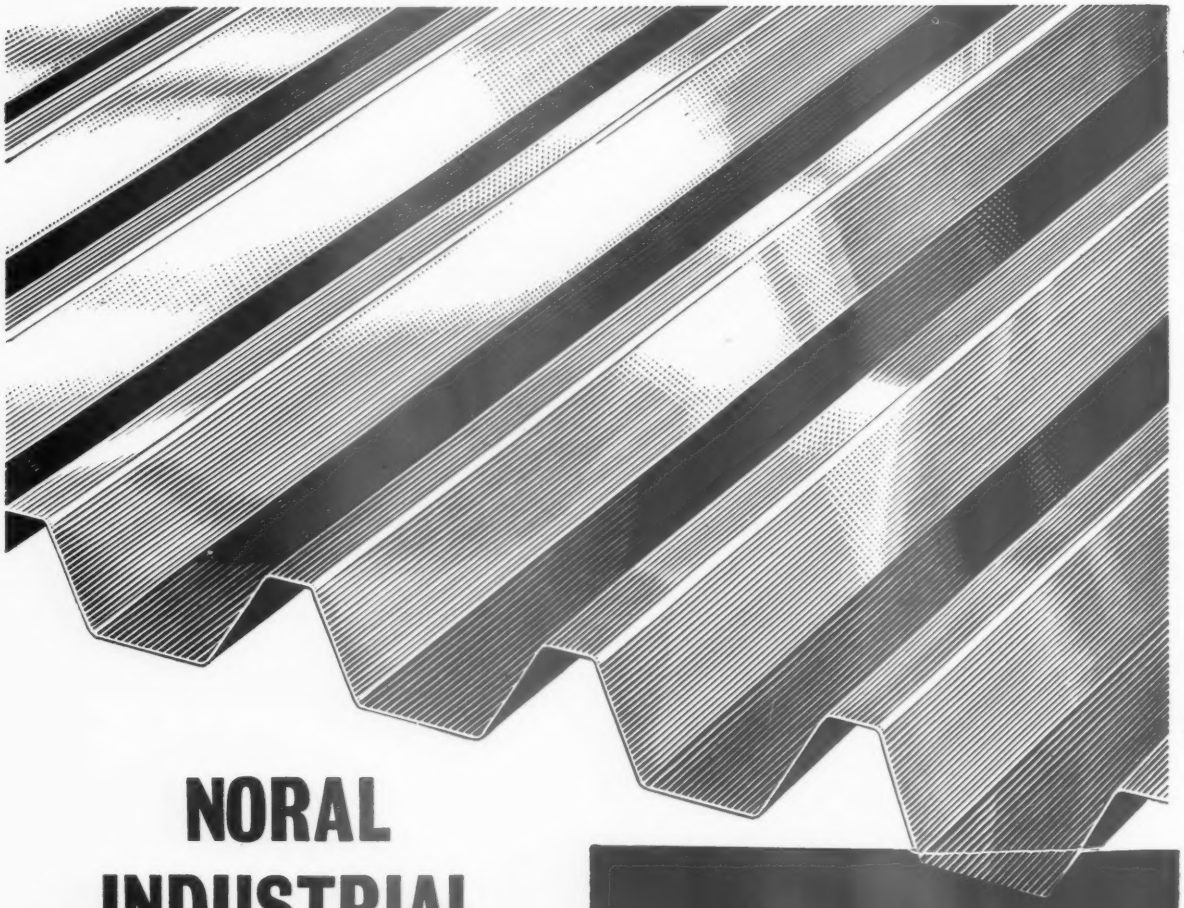
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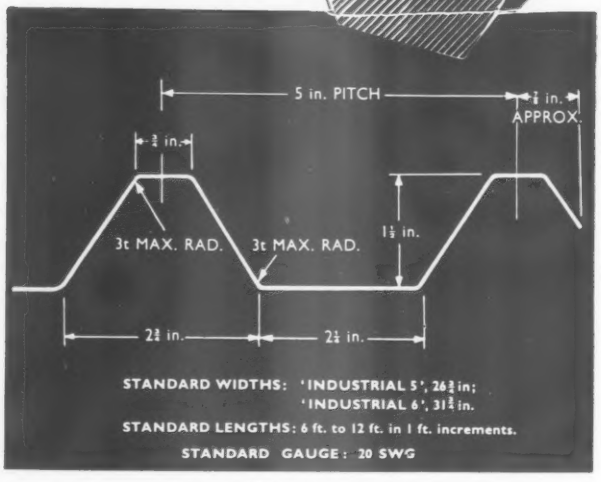
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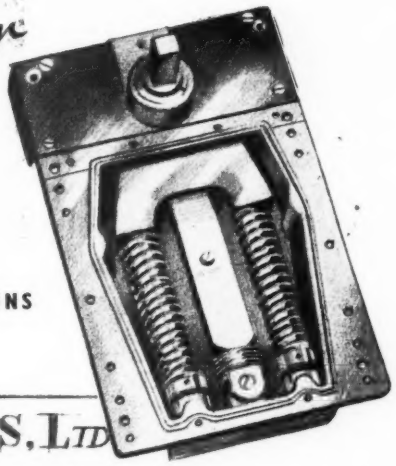


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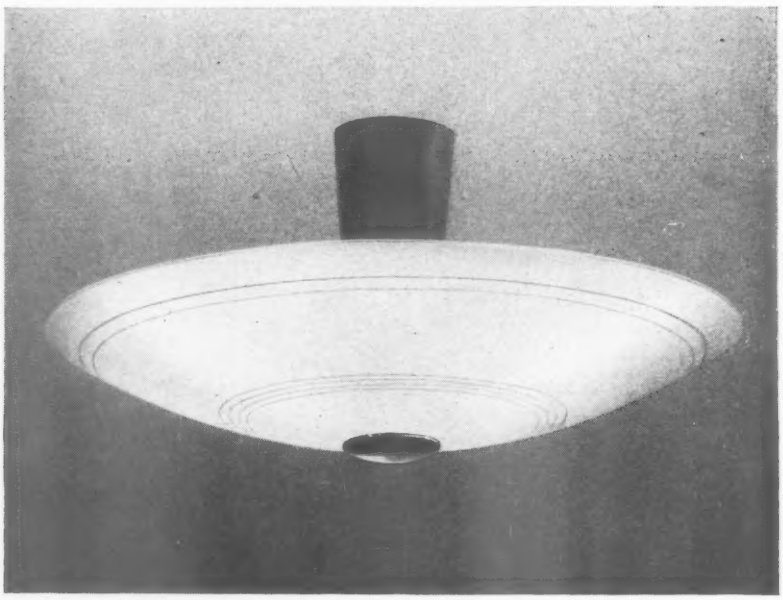
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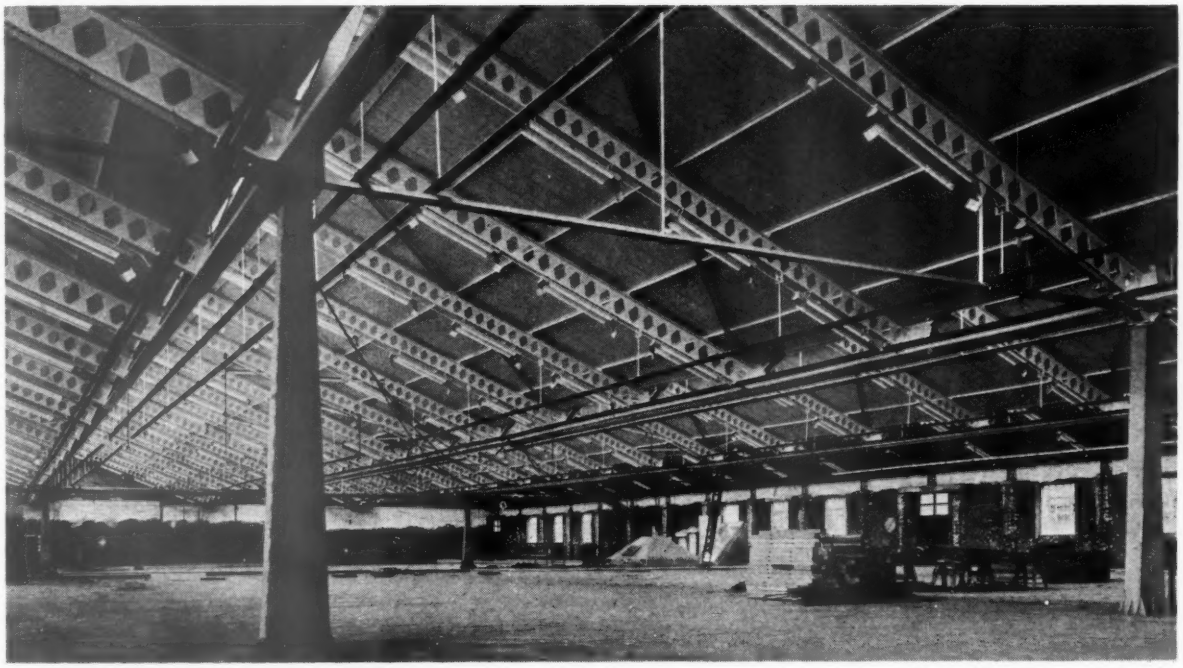
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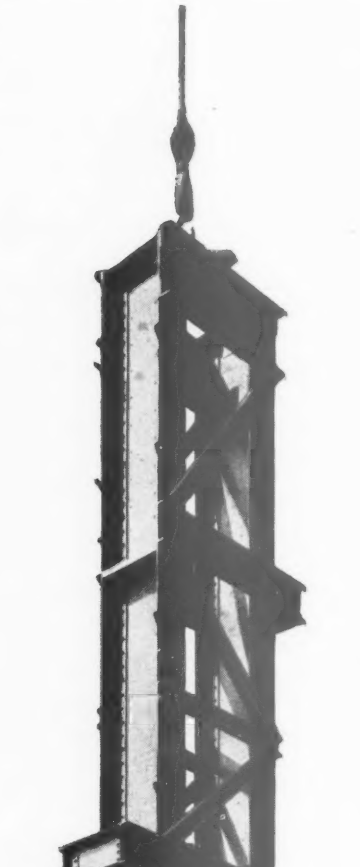
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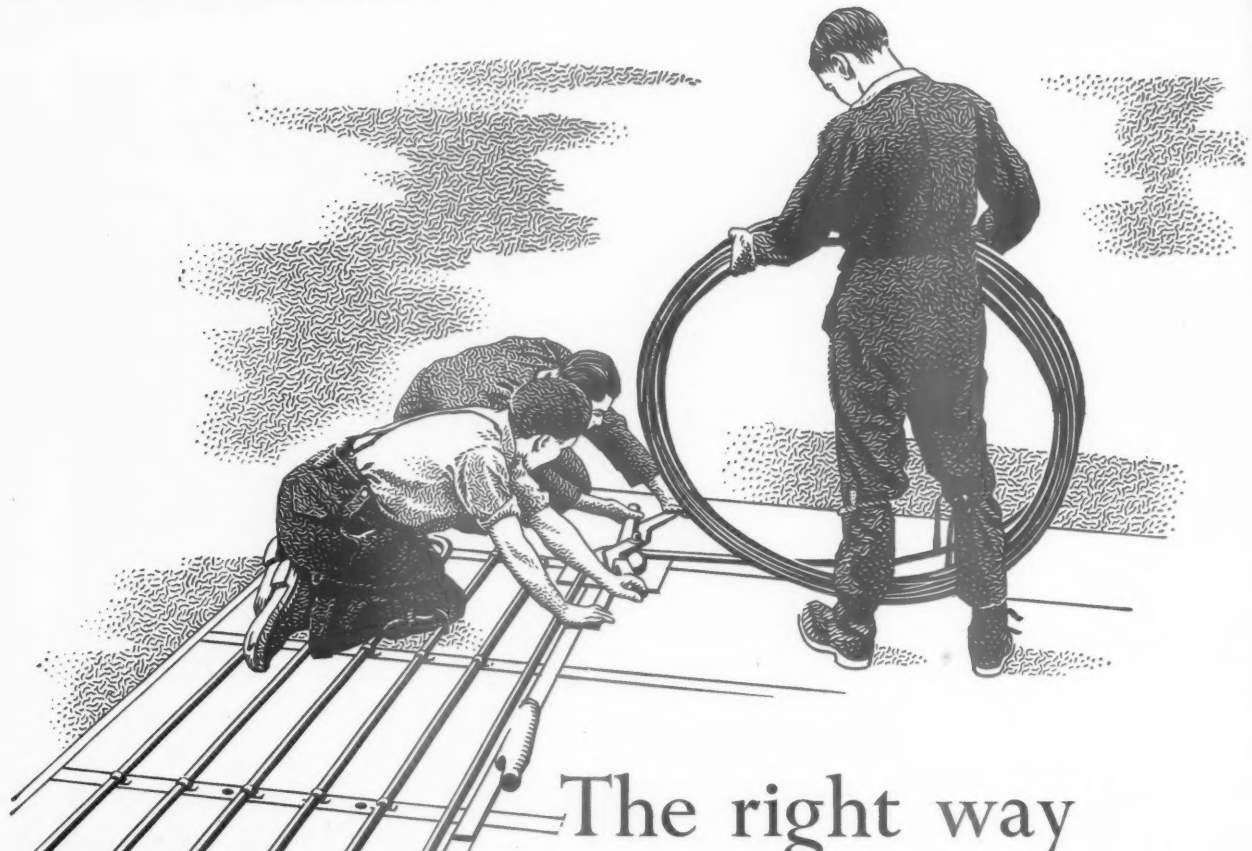
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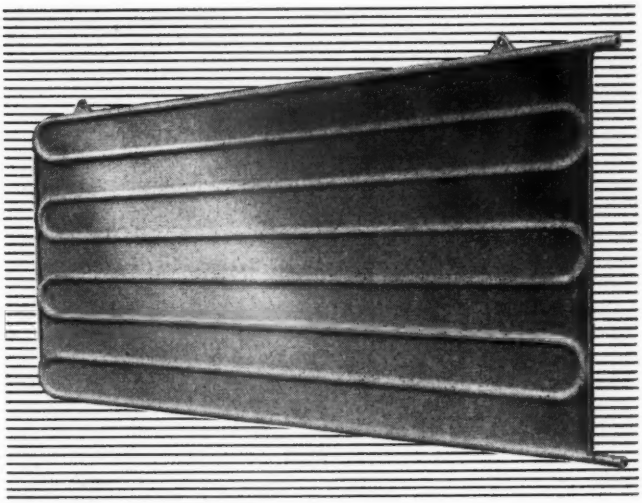
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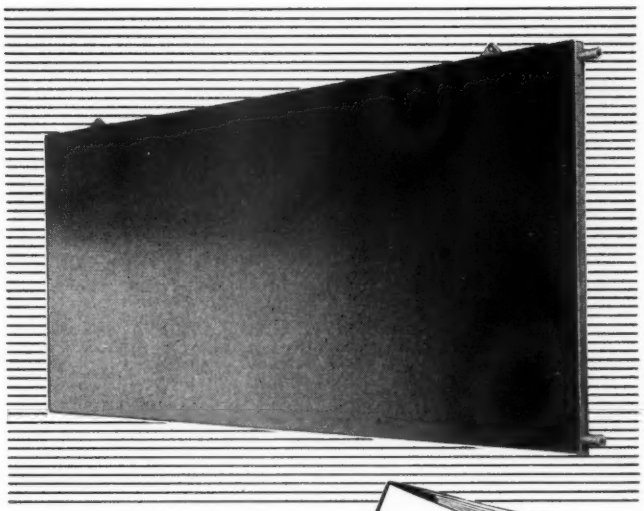


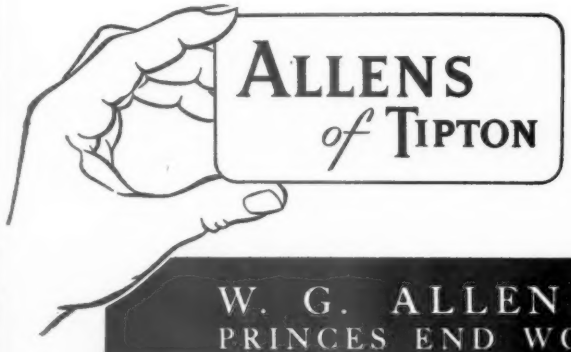
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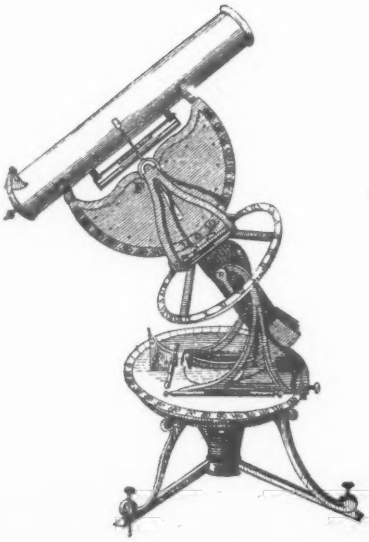


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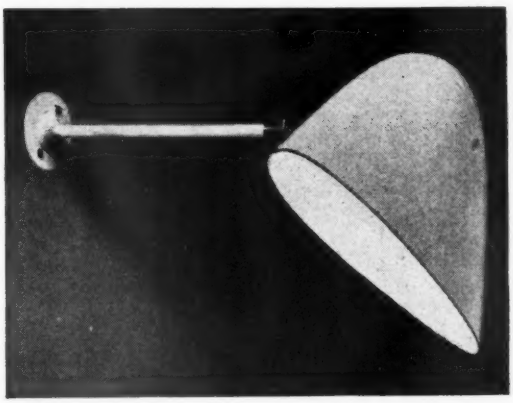
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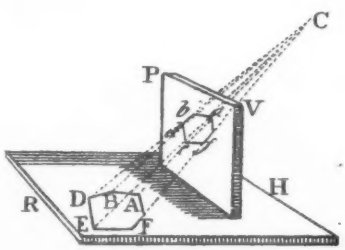
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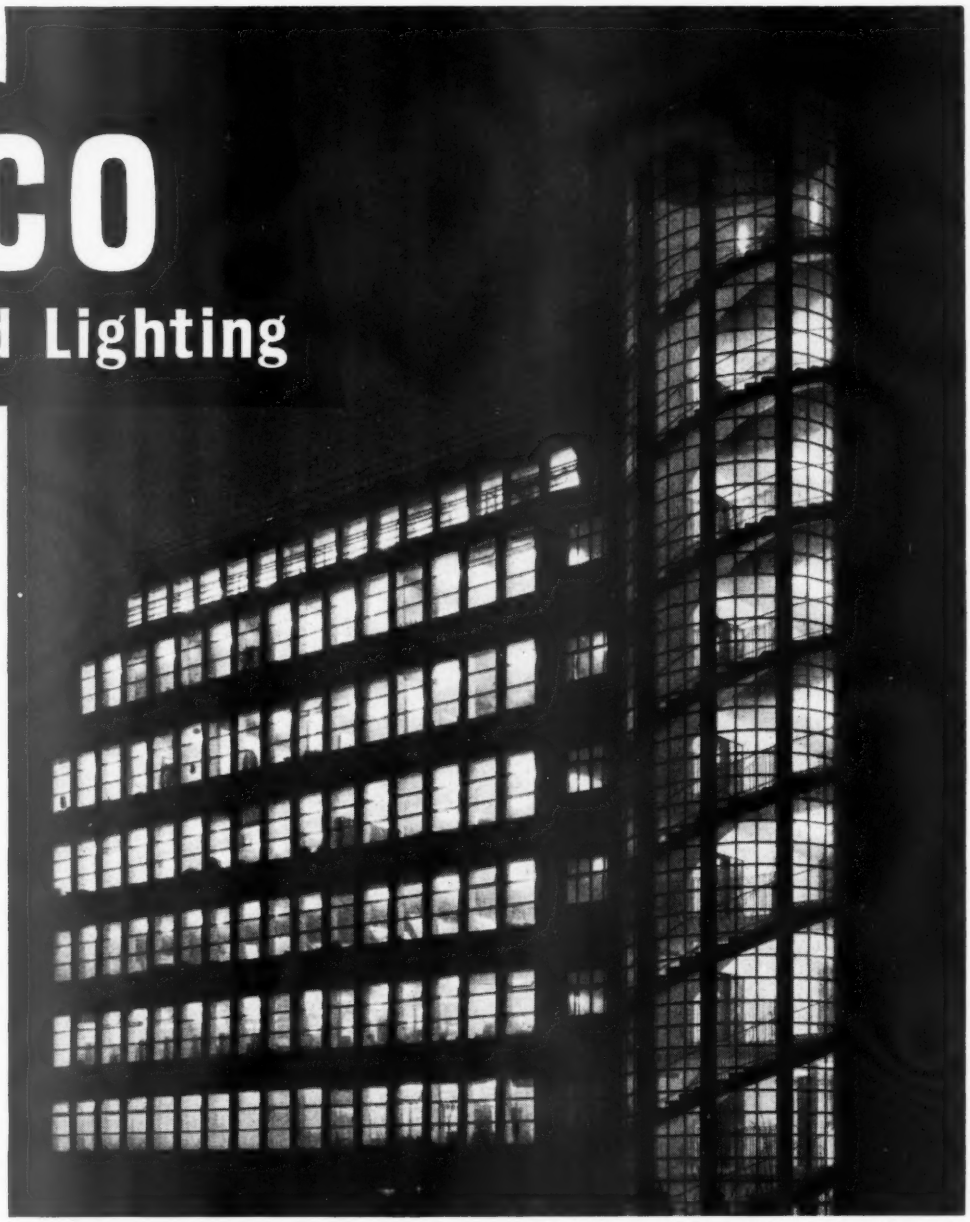
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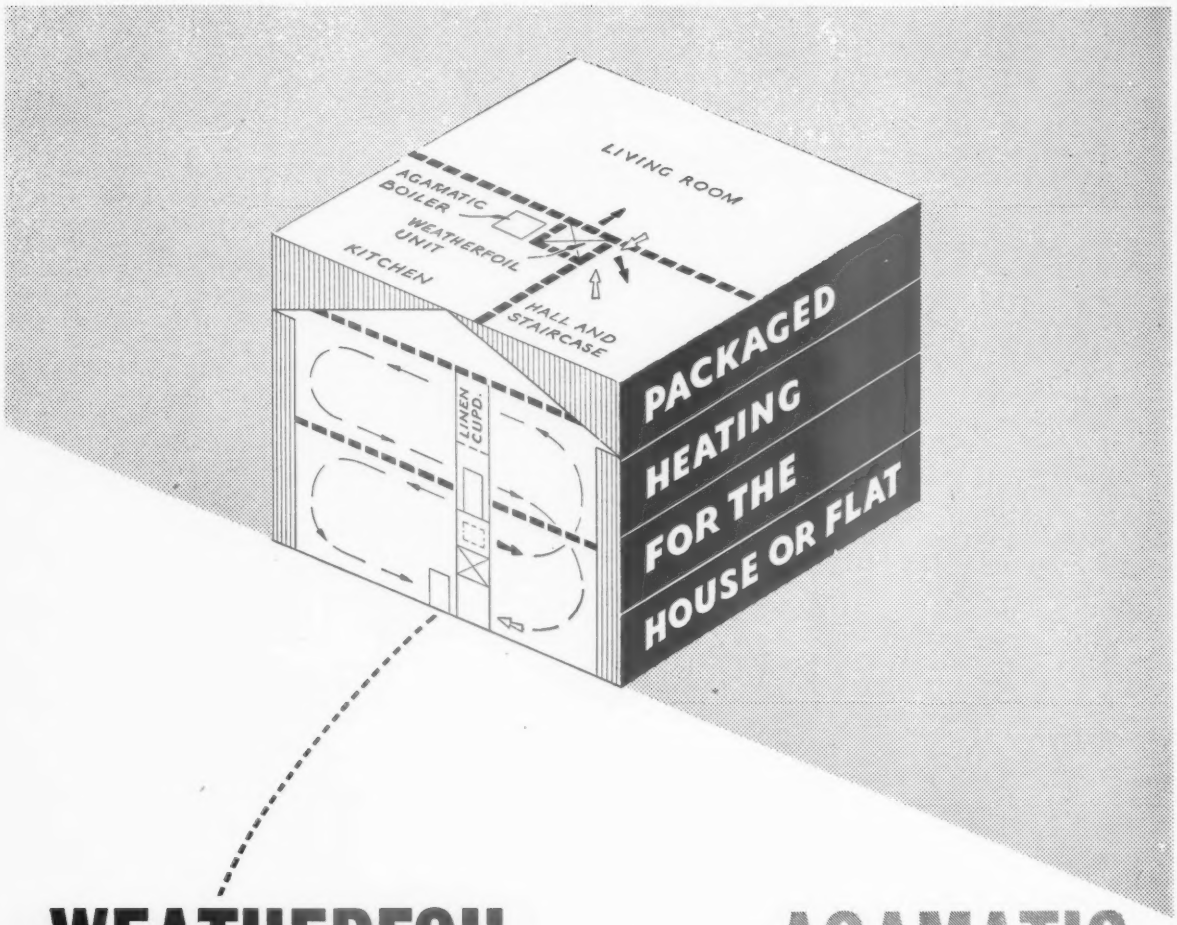
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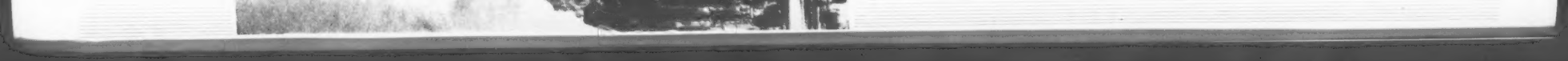
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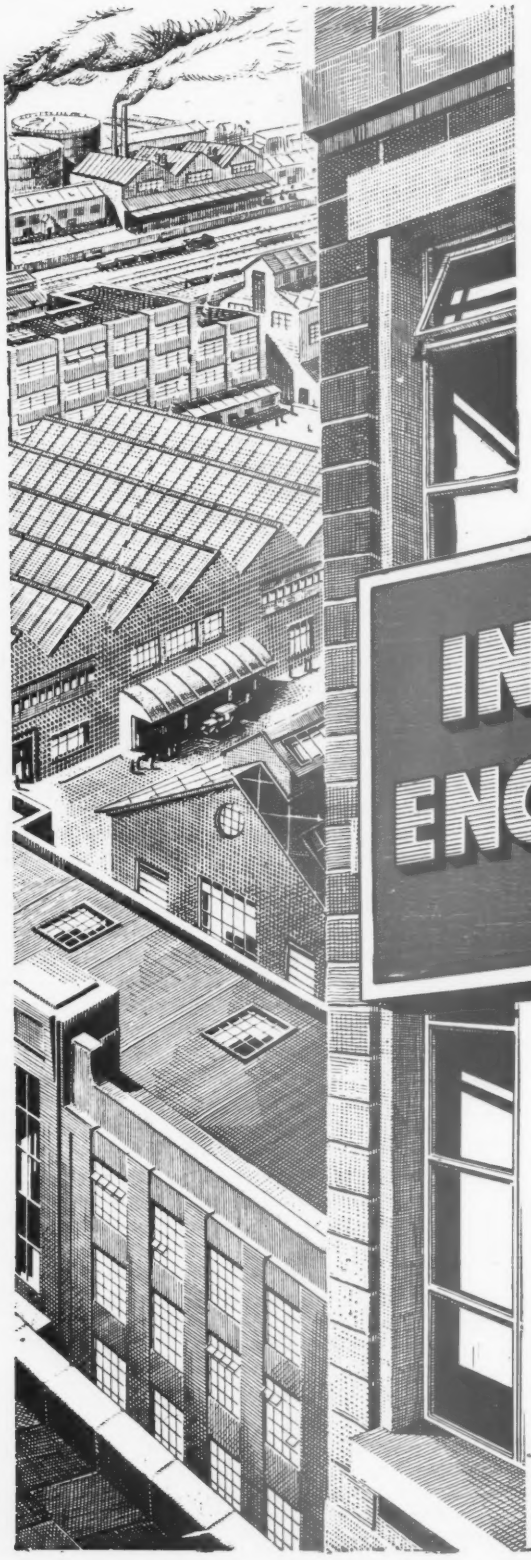
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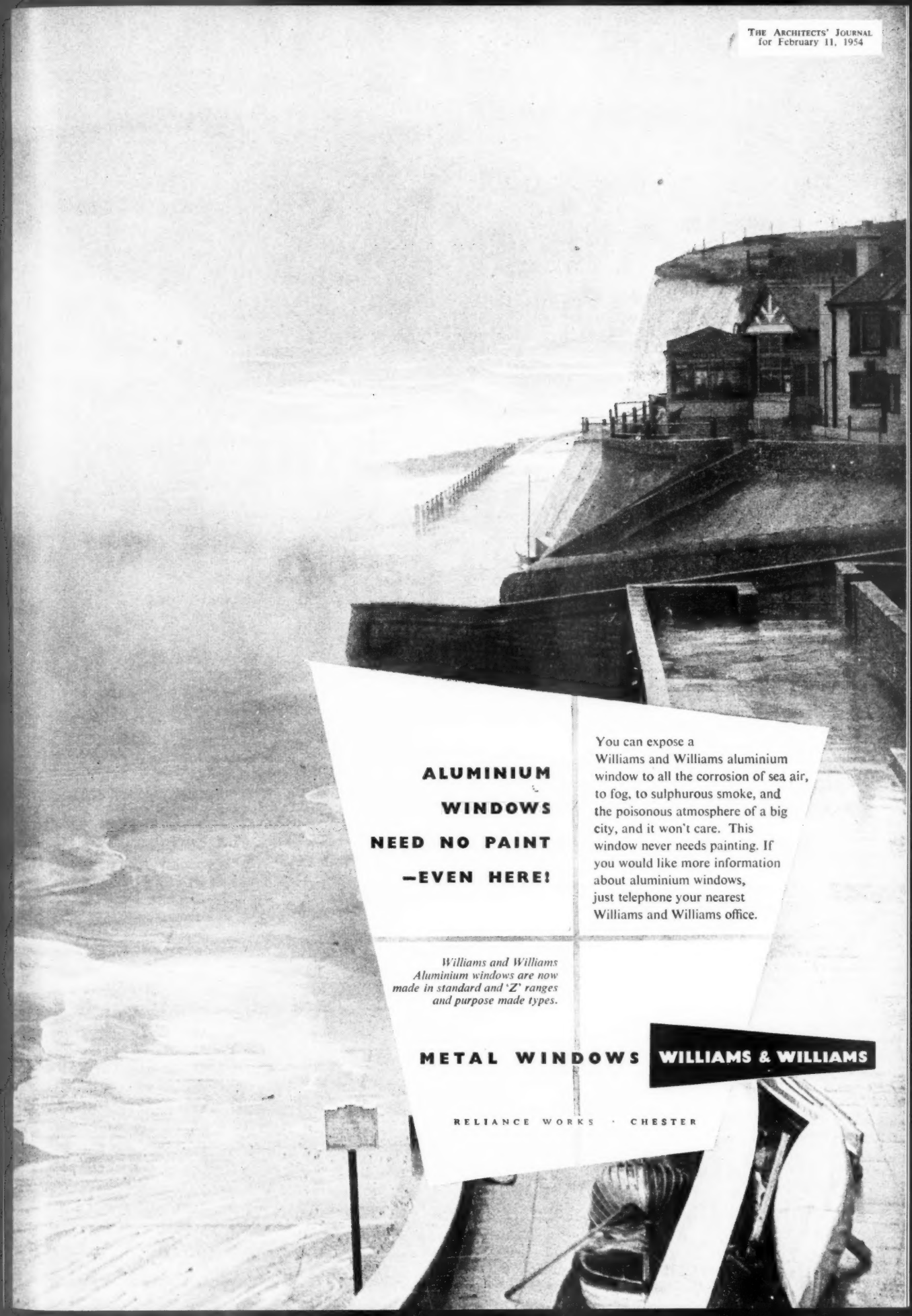
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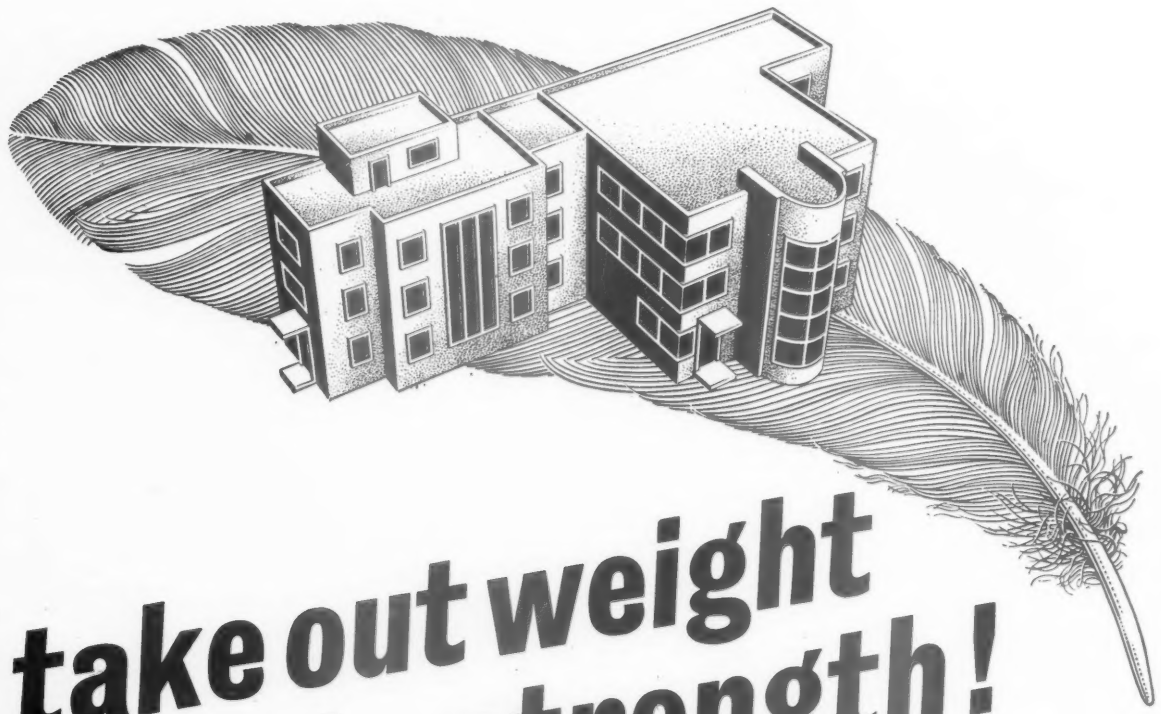
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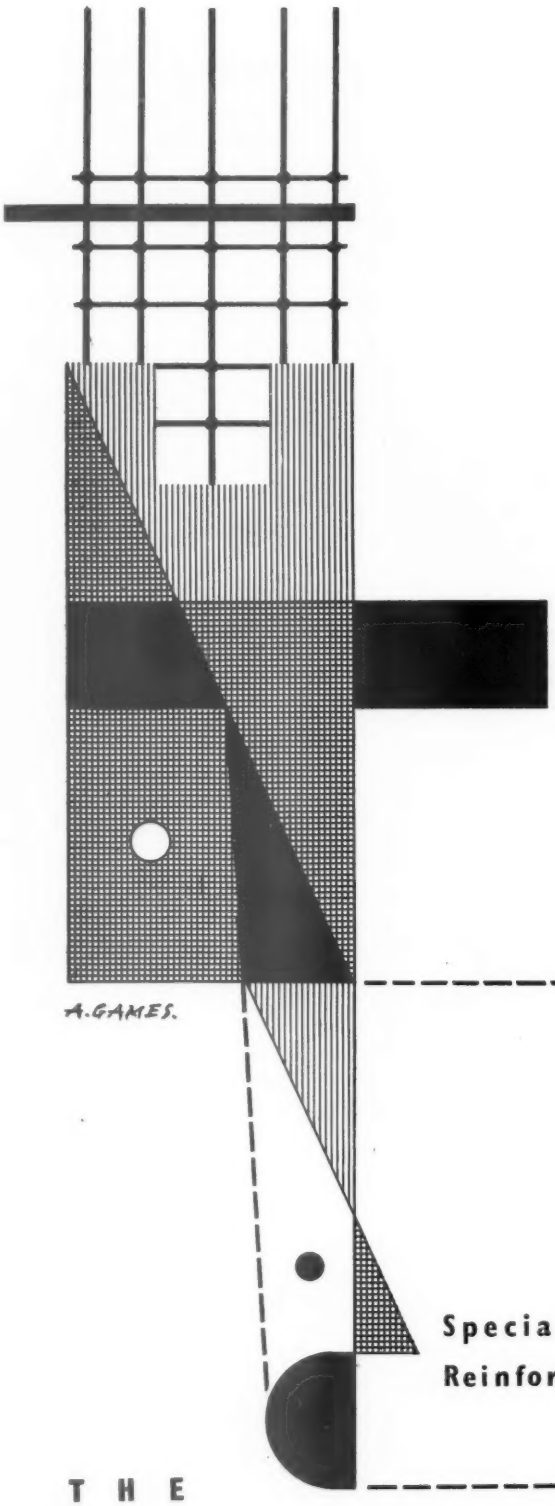
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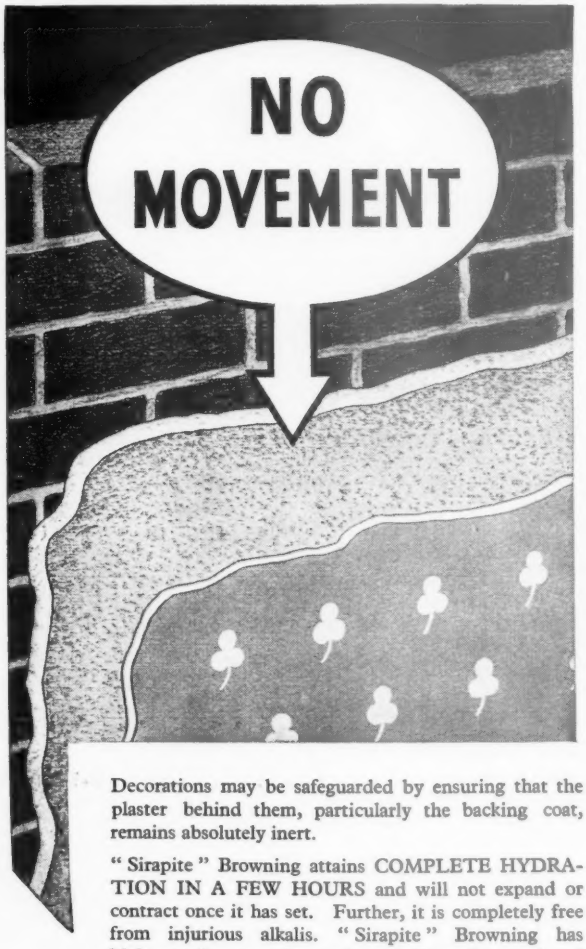
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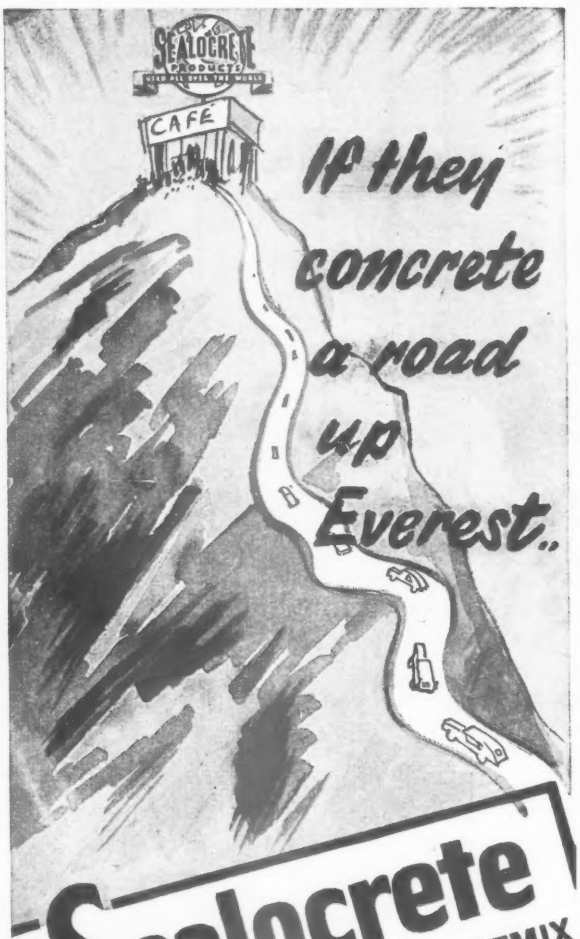
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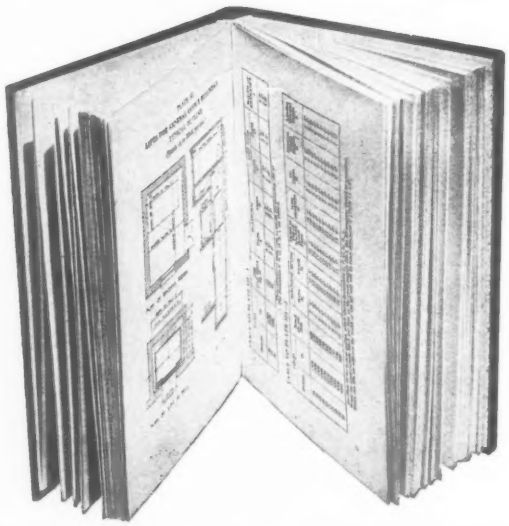
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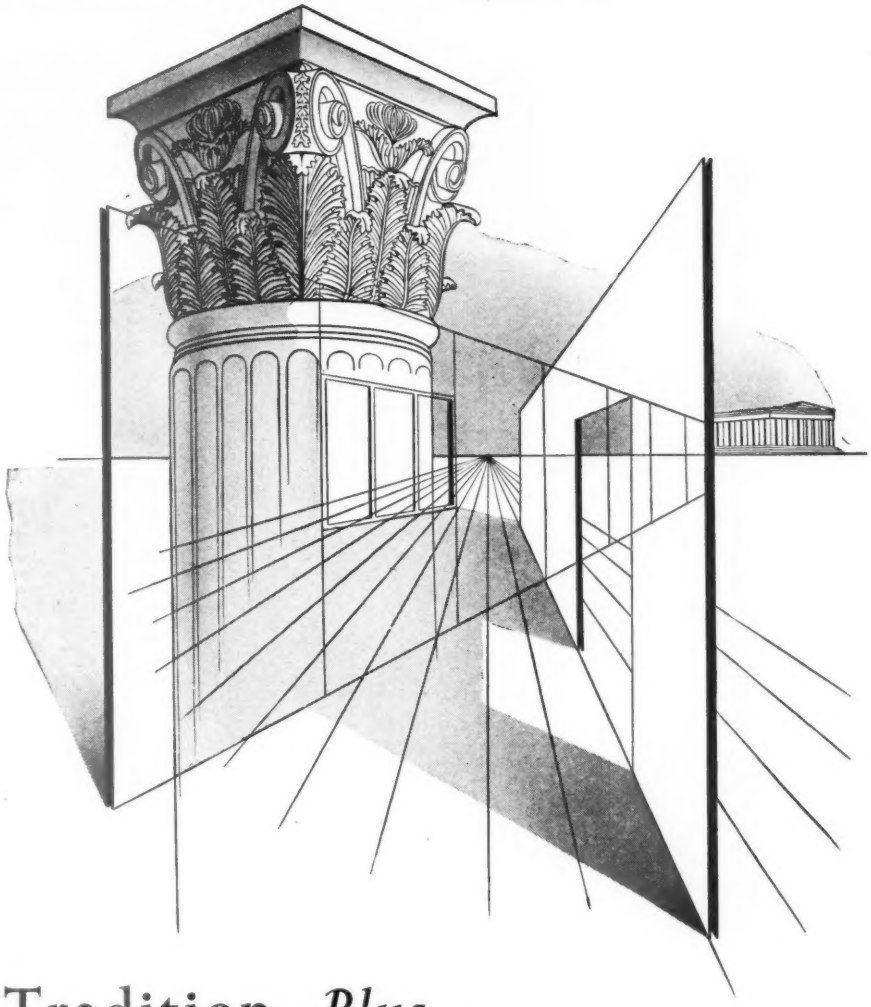
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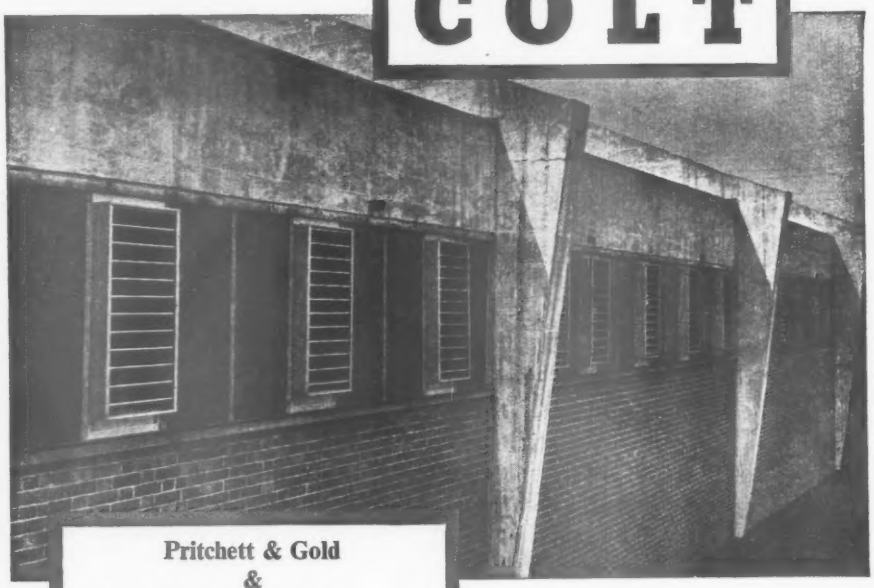
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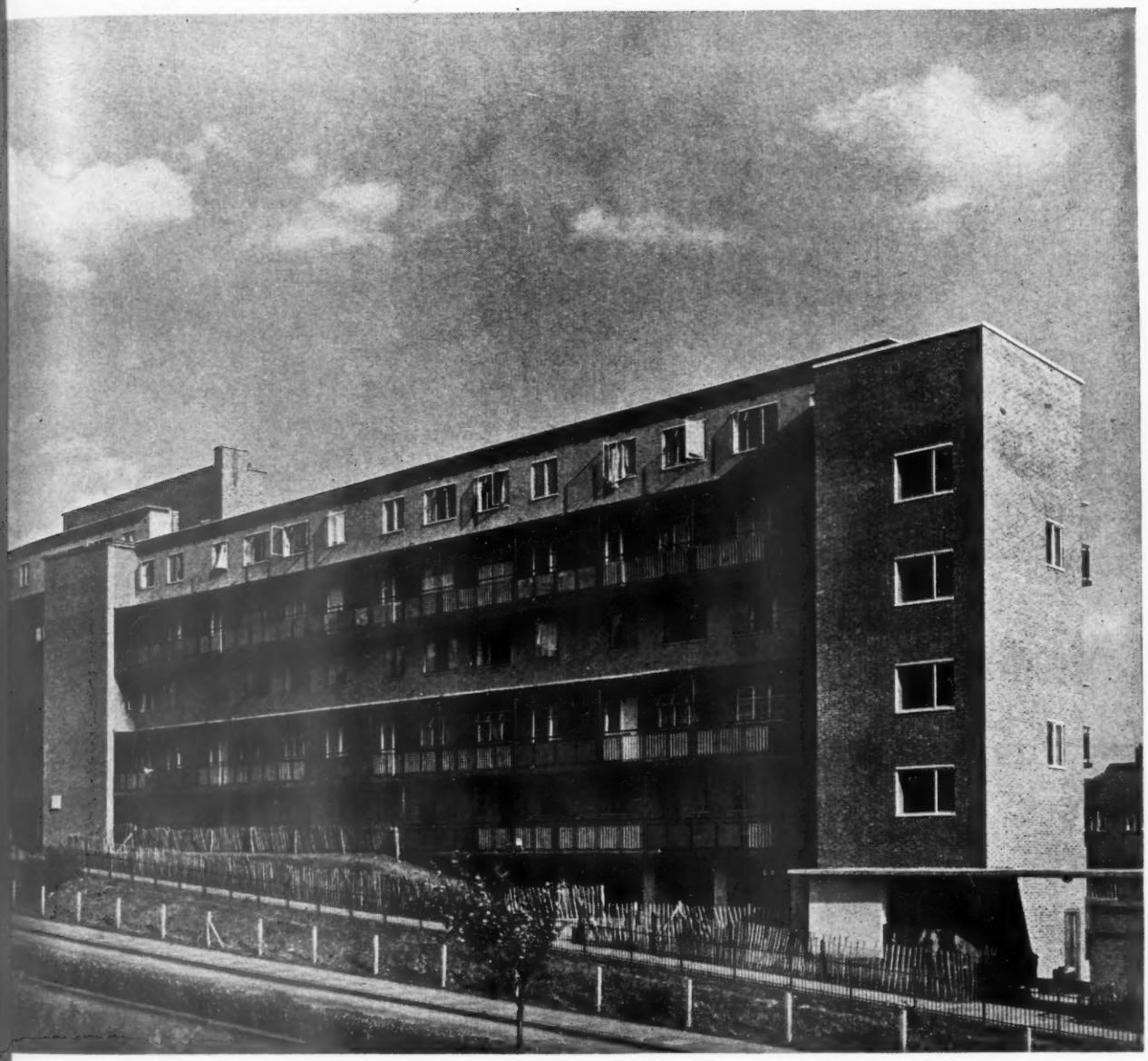
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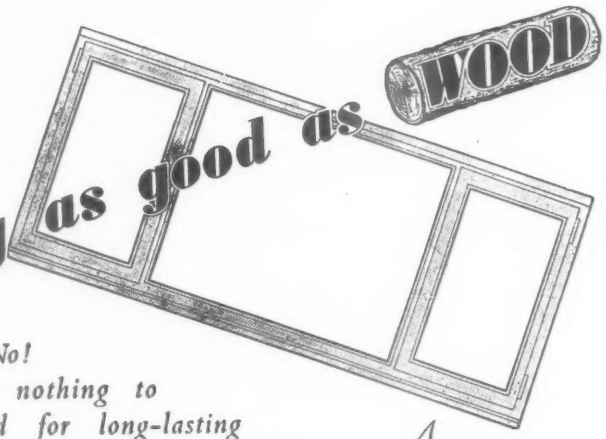
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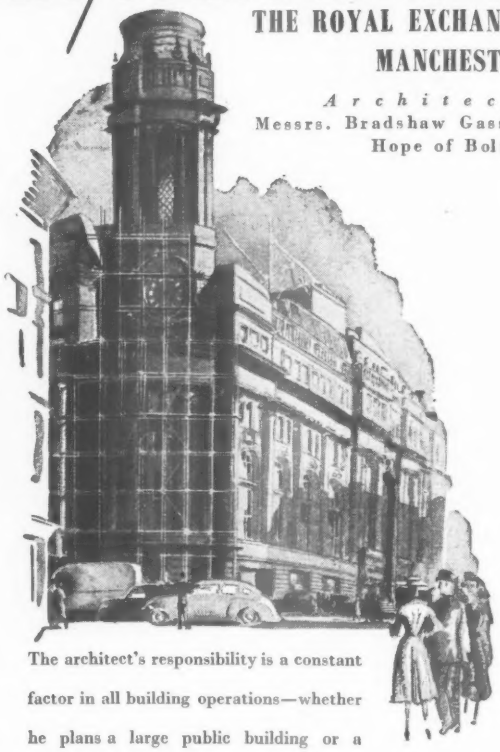
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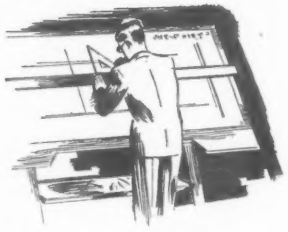


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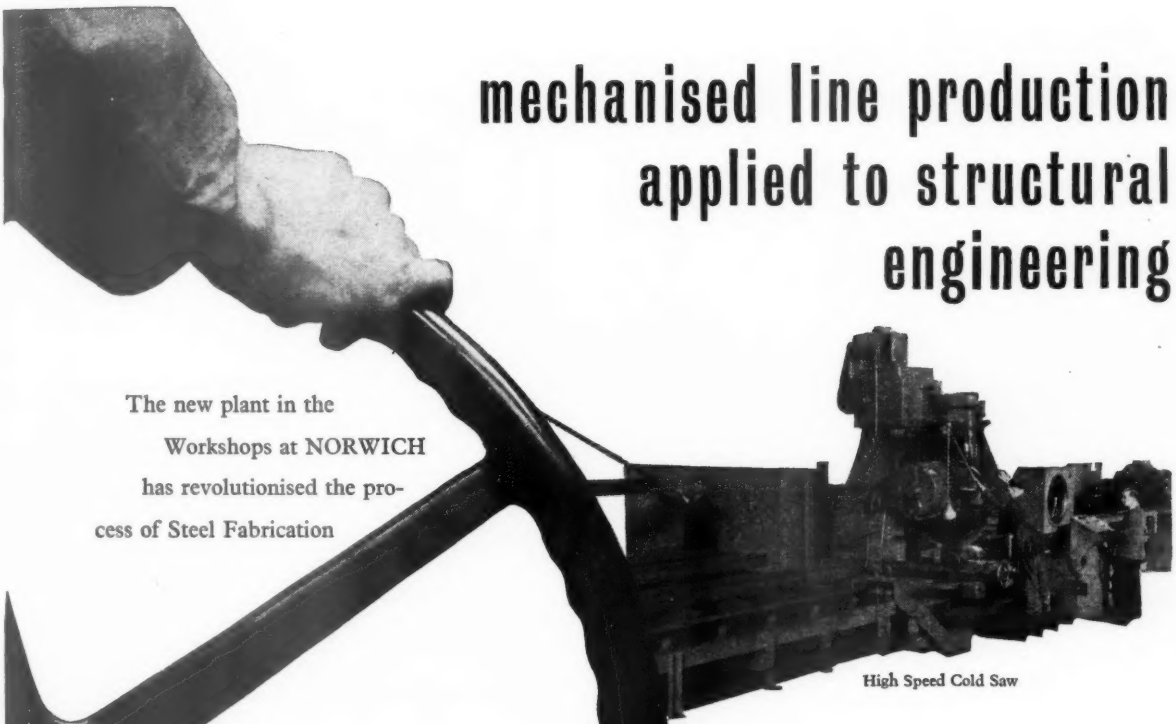


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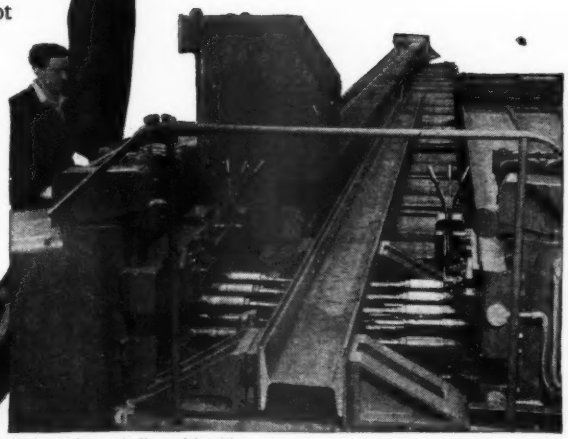
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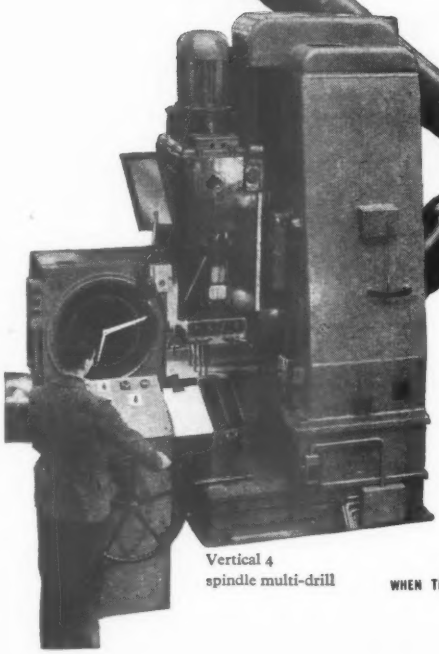


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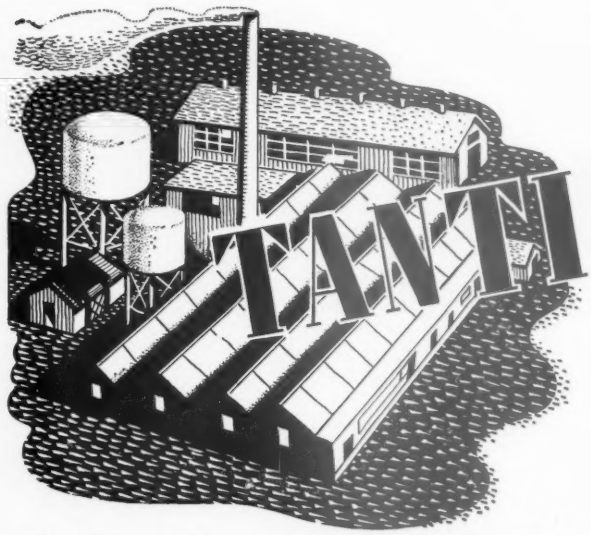
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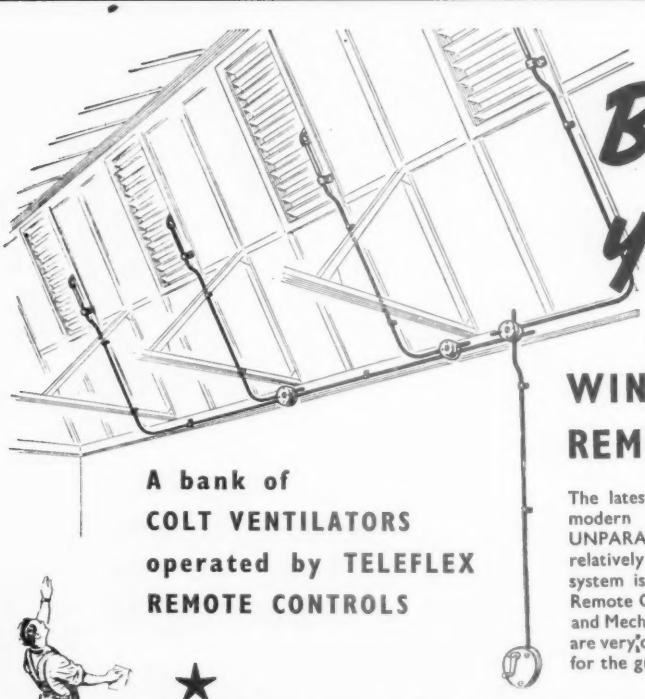
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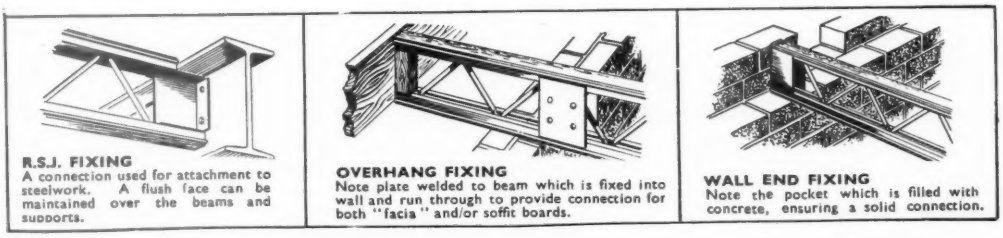
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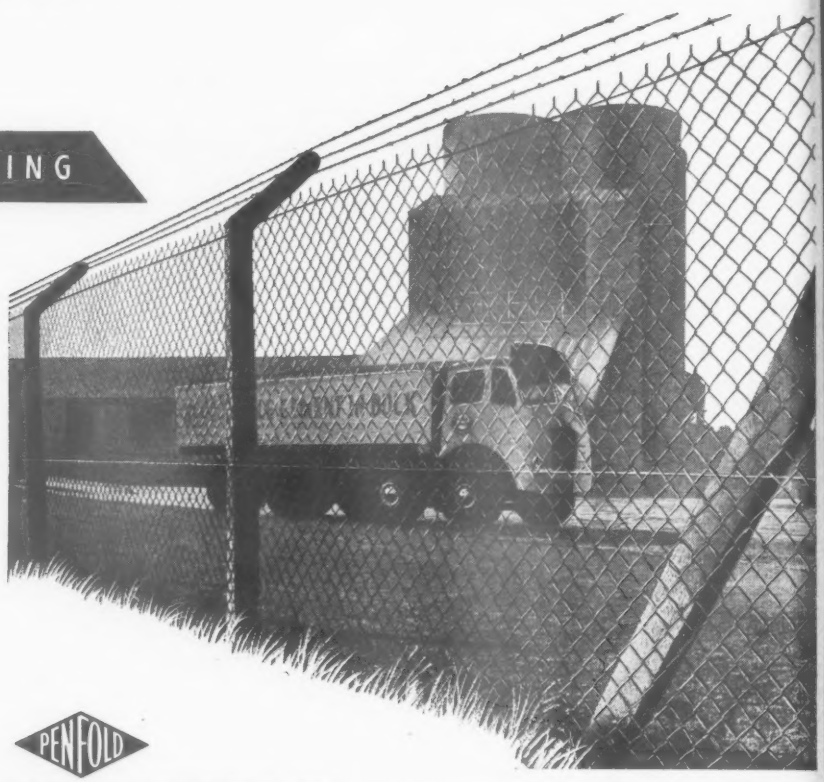
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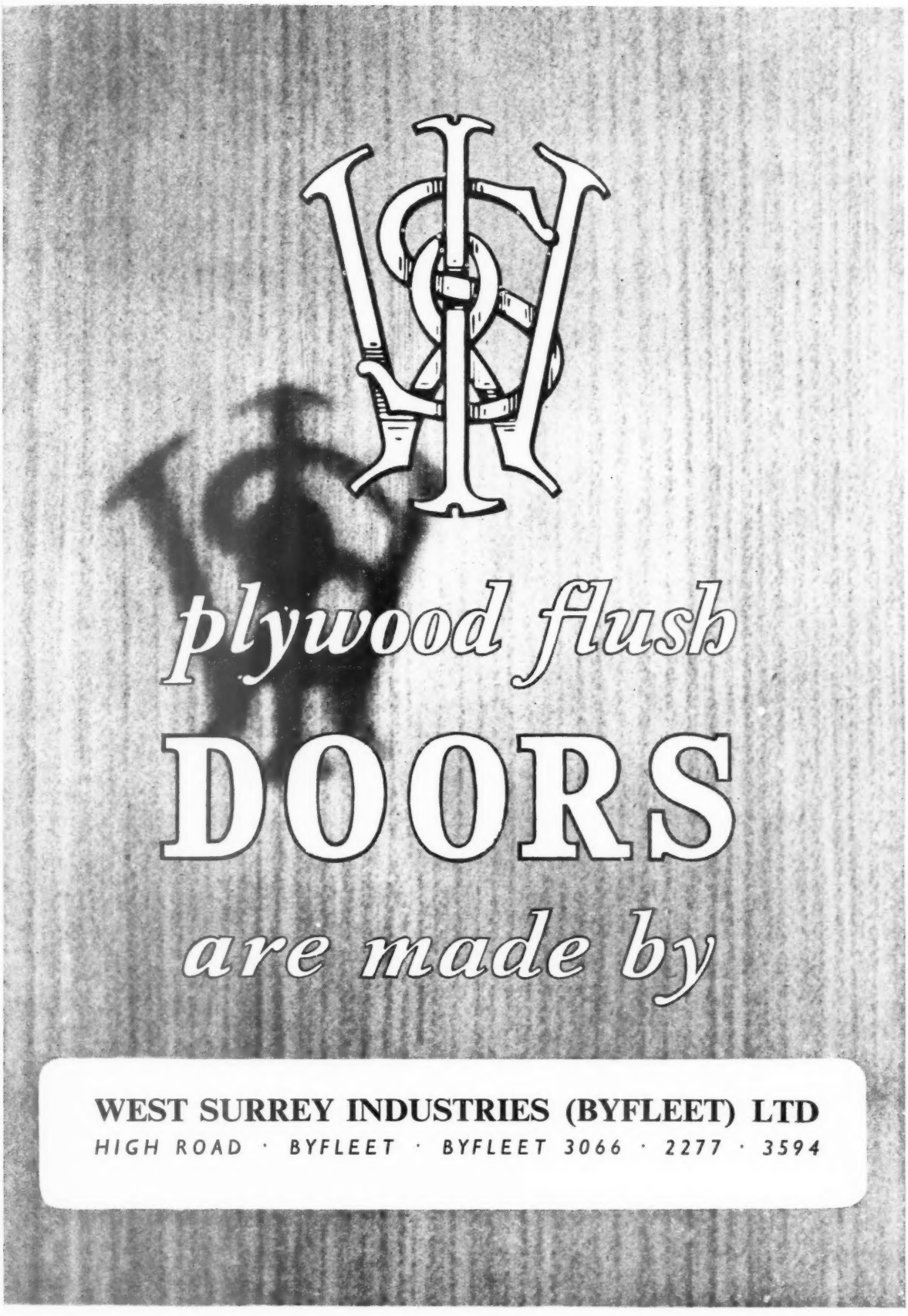
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FOCUS ON YOU

Several times in recent years we have come across architects in entertainment, though no generalisations have been made about the profession as a whole. Now, however, in the film *The Moon is Blue* (ASTRAGAL missed the play of the same name) we have been made respectable. When Our Hero—a young architect who is entertaining an Innocent Young Thing in his flat, is knocked out by her father, she leaps—to our relief—to the defence. "He'd never do a thing like that," she cries, "he's an architect."

*

Good. And if you doubt the Innocent Young Thing let me recommend you to a fascinating piece of week-end reading which will beat hollow that Sunday paper you pretend not to bother with. The book is called "Part II B: Occupational Fertility"* and proves beyond all question that architects are more cautious than umbrella repairers, level-crossing keepers or those fascinating people known as "cutters (not Hats, Gloves or Boots)" or "Press Workers (not Hot)."

*

Being a Press Worker (Hot) ASTRAGAL must hasten to get back to the subject of this note by calling your attention, firstly, to the pictures overleaf, which give further evidence of our profession's growing prominence in the public eye, and, secondly, to the ladies' shiny monthlies, which are getting interested in architects. You may have noticed that Sir Hugh Casson has designed a home for *Housewife*—a nice, compact little affair. (Particularly good is the great staircase window, and the spiral plan of the living-eating-kitchen arrangements.) ASTRAGAL, who always suspects that Frank Lloyd Wright must have done himself quite a bit of good out of the *Ladies' Home Journal* about the turn of the century, hopes you have your ear to the ground—you never know what might come along.

COLD CLIMES . . .

And while your ear is pressed to the ground—frozen at the time of writing—let me have a word in it about foundation trouble near the North Pole. ASTRAGAL pondered this question on coming upon an article on Thule in the *New York Times Magazine*. Thule, the US military base at the Northern tip of Greenland, is less than 900 miles from the North Pole. The ground is permanently frozen, preventing the use of normal foundations. Bare metal may never touch bare flesh. The air is so dry (the humidity is about the same as the Sahara) that it causes the best timber to shrink and crack. And all this in addition to expected difficulties of heating, insulation (the walls are made of prefabricated panels of aluminium and plywood and four inches of insulation) and the 24-hour summer day—24-hour winter night routine.

*

ASTRAGAL doubts whether there will be many towns like Thule, but suggests that the BRS, in its thorough way, should consider setting up a department of Polar Building so that it can even further extend its service, "giving all information short of an answer," as one wit has put it.

AND NO HOT DISSENT

Talking, as we are, of topically tepid topics—you will be surprised that no hot dissent was registered at the AA the other evening when John Berger put forward the case for Russian art. Mr. Berger, who was a lone painter in the company of those architects who recently visitied the Soviet Union, put up a remarkable display of sustained oratory and brilliant argument.

*

The broad issue behind his argument is one that could be discussed for ever. One can, broadly, have an aristocratic or bourgeois art—from which the majority are virtually excluded—of high intrinsic merit; one can, broadly, have a virile, popular art dealing without subtlety with popular issues. One can no more popularize the first than one can refine the second—not at least without changing their natures. That is why every time *we*

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FOCUS ON YOUR DAUGHTER. Is your daughter a menace with a pair of dividers? Peggy was like that (top left-hand picture) until she went to the Poly. From then on, as this feature in "The Girl" shows us, she did not look back. Her ultimate achievement was unique. She reached the last frame of a picture-strip without being talked into taking a night-cap. Only the cynics among you will suggest that she couldn't afford one. And only the cynics will cut out this page and pin it among the cautionary picture stories on the nursery wall.

have tried to take art to the people we have merely debased it. It is not that sort of art. Fortunately, the two kinds of art are not a choice; they are the result of moral climate. They happen. All that—at least in ASTRAGAL'S view—John Berger made clear. The doubts and confusions in the minds of his listeners, however, produced a poor discussion.

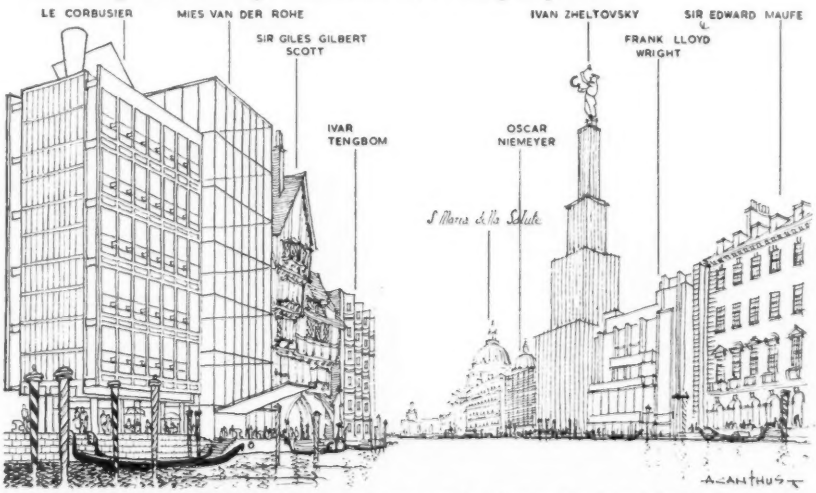
AA WITHOUT HOPE

There has been another—and more domestic—event at the AA. After being closely connected to the place for a generation, Hope Bagenal has given his last lecture there. The school staff dined him last week—by candlelight in the library—thus honouring him in the room where so much of his work was done. They were honouring one of the more fascinating figures of the AA in this century; a mild eccentric, a man of humour, sensitivity and acute observation.

*

AA students will always remember that curiously-pitched voice which lent such potency to his remarks. In his life work of making the formerly obscure subject of acoustics into an exact science, Bagenal was probably kicking against the pricks, but he did at least do more

AND FOCUS ON YOU. ASTRAGAL, *who has never got around to commenting on the brighter* Punch, *takes the opportunity of doffing his hat to the new(-ish) management. It is encouraging to find in a national weekly what would once have been a parochial joke. But only when Mr. Punch is able to print a similar joke without underlining it in his early manner shall we be really surprised.*



In view of the Frank Lloyd Wright proposal for a new building on the Grand Canal, the above development by well-known architects is submitted with respect. (*Reproduced by permission of the proprietors of* Punch.)



Housing Problem in S.W.1.

Houses, like most other items of capital investment, must be replaced after a certain length of time, and the house shown above, having stood one hundred and ten years on a rather insecure site which is subsiding, is now due for reconstruction, and the authority concerned—MOW—is about to put the work in hand. But this is not the simple replacement operation that one might suppose, for the house stands in a key position in one of London's finest pieces of man-made scenery—it is the bird-warden's lodge on Duck Island, in St. James's Park. Here, where Nash had devised his own landscape monument and created a *locus classicus* of the True English Picturesque, the Ornithological Society and their architect, F. B. Watson, made with their building of 1841 a creative contribution to the landscape, so that this corner of the lake would be as unthinkable without the lodge as it would be without the wild fowl. But the problems facing any architect who comes on the scene today are truly formidable, and whoever is called upon to design the replacement has the profession's sympathy even before he starts. One thing he cannot do is compromise; the *genius loci* does not permit it, and the Minister, having himself denounced compromise when addressing the City of London, is in honour bound to be as good as his word in his own activities. This leaves two alternatives. To commission an uncompromisingly modern design, and brave out the rage of the sentimentalists and those who have not the eighteenth-century patience to wait the twenty odd years that a landscape improvement takes to settle. This would require the sort of courage which the servants of a democracy are not normally permitted to display, but the alternative, to recreate True Picturesque architecture, is in a sense nearly as tough. If the lodge were merely to be rebuilt exactly as it is, this neutral gesture would at least deserve our sympathy. If more accommodation were needed, then the pages of the Picturesque architects Loudon and P. F. Robinson might provide the necessary thatched and barge-boarded solution, but in either case very great sensibility and self-denial would be required of the designer. Both the modern and Picturesque alternatives would of course cost more than a Neo-Georgian brick box, but the Home Park of the Commonwealth is exactly the sort of place where constructive extravagance and a bold gesture are not only justified, but positively required.

than anyone to make it a subject at all. That, however, was only one aspect of his many-sided personality and ASTRAGAL will always regret that he death of his collaborator—Robert Atkinson—may have postponed to the Greek Kalends the completion of that *magnum opus*: "Theory and Elements." Or can we hope that a further volume may be the product of Bagenal's increased leisure?

A COMPETITION OF DISTINCTION

The Calvert Distillers Ltd., of Ontario, well known for their advertisement of men of distinction—latterly suffering from eye trouble and a black eye patch—announce a competition for the Canadian Home of Tomorrow. There is no doubt that this competition (see page 184) will attract much attention since it is inter-national—with the significant exception it would seem of the USA—and open to all architects and students. The prizes are very good and the conditions excellent, being both precise and broad.

*

The sponsors should be congratulated on the pamphlet they have produced setting out these conditions. The house is for a family of five—parents and three children—with a car, and precise information is given about the Canadian climate for which the site is chosen. "The family desire a house in good taste . . . æsthetic considerations will be very important to the jury"—which consists of Eric Arthur, professor of architecture, University of Toronto; Architect Humphrey Carver, chairman of the Research Committee, Central Mortgage and Housing Corporation, Ottawa; Gio Ponti, editor of the Italian magazine *Domus*.

*

A significant difference from English competitions is the emphasis placed on visual aids; not only are perspectives mandatory, but no lettering of any sort is to appear on the drawings, and no report appears to be required. Rooms are to be indicated by furniture, bottles doubtless indicating the cellars correctly. Possibly this sensible arrangement was arrived at to ease the jury's work, since they are obviously going to be faced with an enormous number of entries. ASTRAGAL'S bright thought for the week: keen competitors should incorporate one blind window.

ASTRAGAL

POINTS FROM THIS ISSUE

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Winning design for Dublin Port and Docks Headquarters competition page 182

Travel Scholarship for RIBA Associates page 184

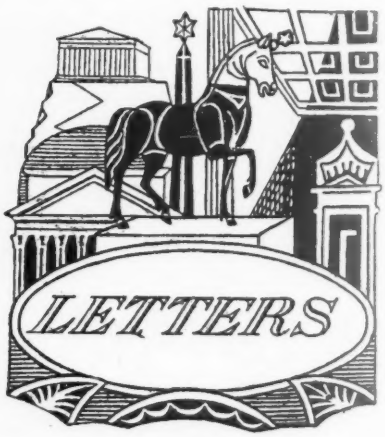
The Editors

WANTED: FIVE MILLION BATHROOMS

A BATHROOM, with a hot water system and a fixed bath, can reasonably be described today as an essential for civilized living. The nation needs over five million more bathrooms before every household will possess one. At our present rate of house building it will take at least sixteen years to provide these bathrooms if the householder can only obtain one by buying, or renting it, wrapped up in the very expensive packaging of a new, three-bedroom house.

When the war ended, and the essential programme of war damage repairs had been completed, the government—with the majority of the population behind them, slum dwellers or not—went all out to build new houses. It was generally felt, in the first years of the brave new post-war era, that this was no time for fiddling about with old-sub-standard buildings in attempts to give them a new lease of useful life. Far better, it was felt, to devote as much as possible of the building industry's energies to new houses on new estates. There were objections raised to this, of course, by minorities, usually expressed—in terms calculated to soften official hearts—by quoting instances of elderly widows owning, and wholly dependent upon, small properties who could only repair their property (even supposing they could obtain a licence) at a cost equal to, or greater than, the total of many years rents. Such arguments, though based on fact, carried little weight when the ownership of rented property was a social stigma.

The nation's wealth today lies not so much in its dwindling natural resources as in the high technical skills of its working population. If we are going to keep, let alone raise, our national prosperity, we must increase the proportion of skilled workers in the country. Education, skill and culture go, reasonably enough, with leisure and good living conditions. Which brings us back to our five million bathrooms. Even at the present housing rate, millions of the children now living in slums or sub-standard houses will, in their turn, when grown up, be raising families under the same conditions. It is the growing realization of that fact that has prompted the present Government to introduce a Bill to encourage the improvement and conversion of much of the country's existing stock of over thirteen million houses and flats. The JOURNAL'S Guest Editor for 1954, Felix Walter, as announced last week, is going to present to readers over the year a series of articles on all aspects of conversion and repair, and set an architectural standard for the full economic use of existing buildings.



On January 28 we published a comprehensive article on all that our Guest Editor for 1953, Professor Ian Bowen, and Martyn Webb had discovered about the architectural profession. In this we included comments by architects on Martyn Webb's report of statistical results of our sample enquiry. This week we give our correspondence columns to other architects who were sent copies of this report for their comments. They are:—L. C. Howitt, F.R.I.B.A., City Architect, Manchester. The Hon. Lionel Brett*, A.R.I.B.A. R. W. Paine*, A.R.I.B.A., Principal of School of Architecture, Canterbury. A. E. Henson, F.R.I.B.A., President of IAAS. Douglas Jones, F.R.I.B.A., Principal of School of Architecture, Birmingham. G. H. Morris, L.R.I.B.A., of the City Architects Department, Coventry. J. L. Womersley*, A.R.I.B.A., City Architect, Sheffield. Alan Reiach, A.R.I.B.A. R. H. Uren*, A.R.I.B.A. (Asterisks denote membership of RIBA Council.)*

MORE COMMENTS ON THE "FOCUS ON YOU" REPORT

From L. C. Howitt

SIR,—The pessimistic view of the poor outlook for architects over the next few years ignores the possibility of considerably increased demand for the services of the architect by private enterprise and the large proportions of architectural work which is not at present being handled by the profession. The completion of the objective of the Registration Acts—to protect the job and not only the title of the job—would have an enormous effect and is indeed the logical conclusion.

If the number of recruits to the profession exceeds the demand (and who would dare to claim the power of prophesying seven years ahead, which is what control of admission to training would imply) then the best qualified and most capable will be employed as assistant architects; the unqualified draughtsmen will be replaced by trained and qualified successors. In my opinion, the existence of a class of draughtsmen who have no intention of qualifying is a menace to architecture and architects. Each is a potential "Architectural designer and consultant," and a competitor for commissions who is not bound by any scale of fees or code of professional conduct; each is a potential undercutting competitor of the qualified assistant architect seeking employment.

The economist's definition of an assistant and his opinions on the qualifications needed probably reflect his inexperience of our profession. His confusion is evidenced by his simile between the field-marshal's baton and associateship of the RIBA. The latter is not a badge of rank—it is the mark of attainment, after training, of the standard required of an architect, which in the comparison would correspond to the recruits passing out as trained soldiers.

The penultimate paragraph of the report refers to the approximately 7,000 registered architects who are not corporate members of the RIBA, but omits to point out that this number diminishes constantly. It is more disturbing to read that despite the fact that it was largely due to the efforts of the RIBA in the first place that ARCUK came about, 4,000 corporate members of the RIBA remain unregistered. It would be interesting to know what proportion of this number are acquiring the practical experience qualification, are abroad or have other good reasons for not appearing on the register.

In conclusion may I congratulate the JOURNAL on initiating this valuable survey and the authors on the production of a most interesting report.

From the Hon. Lionel Brett

SIR,—The architectural profession is like an army in which everybody is, or aspires to be, a staff officer. The result must inevitably be (as in the case of other words like artist, clerk, gentleman) to debase the meaning of the word "architect." Sooner or later this inflationary process will have to be stopped, and the logical remedy will have analogies with the military one. All who are later to serve together will do an identical course of basic training. Then, at the Intermediate stage, by a series of exhaustive and exhausting tests, the profession will be divided, possibly into three sections: (1) assistants; (2) building technicians and structural engineers; (3) architects, the number in each section being related to the actual needs of the nation.

From R. W. Paine

SIR,—Your statistics and tables show clearly that for years to come, unless something is done to provide greater opportunities for architectural practice, the bulk of the younger generation will be scrambling for a handful of senior positions either as principals in private practice or as key men in official positions.

This is not an age of natural expression and no hope for more work lies in that direction but, although no one agrees upon the total, all concur that far less than half the volume of building work today is in the hands of architects.

To improve upon this would benefit the profession as a whole, hence all should be interested—even the established. It would alleviate the very dire prospect before the young men who should be roused at the chance. It would do no harm to the general public who could not suffer more horror and confusion than they commonly do now and so might be counted upon to raise no protest.

Home dentistry with string and doorknob is rarely practised nowadays: medicine is entrusted almost universally to doctors. Is it unreasonable to press for the wider application of architectural services? I suggest not, but I am convinced little effort will be made by those in the profession who have comparatively little to gain and who value the reputation of being "easy-to-get-on-with" more than a victory for a generalised cause. Hence it behoves the rest to shift for themselves.

In effect, this means they must be prepared to take an active part in the shaping of architectural policy; to stand for election to local Committees and Chapters of Architects; to put themselves in the running for offices where their views can be heard and respected. Only in this way, which it needs no graph to show is not the way at present, can they hope to bring that "marshal's baton" into use.

From A. E. Henson

SIR,—With regard to the movement from private practice to local authority employment revealed in your report, a word may be said on the unfortunate consequences of this change. There is a tendency for employees of local authorities to engage in private work in addition to their official responsibilities and it is regretted that in some cases they use their privileged positions to gain commissions from the general public. This is even more unsatisfactory when one realizes that in many cases these persons are not even qualified, but as they are employed in local government offices their competence is assumed by the public. Surely, greater attention should be paid by local authorities to the qualifications of persons submitting plans, etc., for their consideration, and it would be in the interest of local authorities to ensure that some guarantee is made that the work will be supervised by a qualified person.

I support the view that there is need for grants to enable suitable candidates to qualify through the medium of the architectural schools: the present form of grant should, however, be modified, and I am strongly opposed to the suggestion that entry to the profession should be restricted to candidates from the architectural schools. It is abundantly clear that balance should be maintained between theoretical knowledge and practical experience. One finds in an office employing a number of junior assistants that *the most satisfactory results are often obtained from employing, side-by-side, assistants who have qualified from the schools and assistants who have graduated by office training plus part-time studies.*

I feel that we could look to some of the other professions which have achieved the ideal combination of practical and theoretical training by "sandwich courses". The employer registers his pupil with a technical school for the purpose of obtaining full-time academic training for part of the year, supplemented by training in the employer's office for the balance of each year.

I would even venture to suggest that the Incorporated Association of Architects and

Surveyors which has, for a long time, stressed the need for the practical approach, would be prepared to assist the architectural schools in the development of such a scheme.

In commenting on the section reporting upon private offices as a training ground for architects, I think emphasis should be laid upon the very vital matter of the better psychological approach and attitude towards clients' work on the part of the assistants trained in this way, as compared with that of those who have entered the profession through the medium of the schools. In this connection in the table on the relative importance of principals and assistants, the statistics show that the assistants in private practice are under more direct supervision of the principal—an important point.

Reference has been made to the method of entry to the profession as being between the architectural schools and the RIBA examinations. I feel that there is need for further freedom of choice for the young persons entering the professions. Unnecessary expense is placed upon the young person if he is obliged to subscribe to one professional body for the purpose of obtaining his qualifying examination and to another professional body with whose views and ideals he has particular sympathy. Unless responsibility for examinations is to be undertaken by the Board of Architectural Education of the Architects' Registration Council of the United Kingdom, surely it is only equitable that the examinations of more than one professional body should be recognized if they are to avoid the charge of maintaining a "closed shop" policy within the professions.

The signal value of your survey is that it brings into the light of day flaws and weaknesses in the structure of the architectural profession and reveals beyond doubt the present unsatisfactory relationship between the profession and the general community—it calls for action and action *now*—but that must be the subject of another letter!

From Douglas Jones

SIR,—I have no intention of going into the benefits to be gained from full-time architectural education, but perhaps the figures given in your report may help to convince people how undesirable it is to encourage the mushroom growth of small "so-called" architectural schools all over the country which give part-time training.

Surely we would be better employed trying to ensure that students of architecture who are worthy of it, should be given adequate grants to train properly. Perhaps, too, the figures you give in your report may help to enlighten the many detractors of full-time Architectural Education, but I doubt this because they think in terms of training good assistants while the school believes that each of its students is a potential principal. And long may we do so. But while everyone will agree that all architects should be given an equal chance, our energies should not be devoted to reducing all systems of training to a low common denominator in the name of "fairness to all."

From G. H. Morris

SIR,—If, bearing in mind the numbers of assistants who are corporate members of the RIBA, study is made of the membership of the Council, the inequality of representation is clearly shown. This fact has been repeated many times recently but cannot be overstressed if the profession is to be efficiently governed for the benefit of all its members. The numbers of architects qualifying through schools is now such that unless the RIBA is prepared to look after its members' professional interests more than it does at the moment, there will be small inducement for a school-trained architect to join; his degree or diploma being adequate qualification, while membership of ARCUK will give him the right to style himself "Architect."

Mr. Webb's tables show that a large proportion of principals are employed by local authorities. This raises a point, perhaps, outside the scope of Professor Bowen's report, but nevertheless of professional importance. They are mostly Heads of Departments with status at least equal to that of the Engineer and Surveyor or Medical Officer of Health. Their responsibilities are increasing, yet lack of statutory recognition makes the establishment or dissolution of a Department dependent upon the whims of a changing Council. If recognition were granted the dignity of the profession would be enhanced and the standard of architecture materially improved.

From J. L. Womersley

SIR,—If all architects did their jobs properly—*i.e.* gave detailed attention not only to the æsthetic aspect of design but to cost, erection time and constructional methods—the profession would soon become generally recognized as an indispensable economic factor in the building industry. The economic aspect is just as important to the client, be he a private individual or a local authority, as is the adequacy of the accommodation in the building, and too many architects pay insufficient attention to this fact. The surest and quickest way of raising the prestige of the profession is to prevent any dead wood getting into it, and all employers, departmental heads and school heads have a major responsibility in this respect. It should not be forgotten that by allowing, perhaps through sentiment, an individual of indifferent calibre to enter the profession, not only is a better man being kept out, but the public and the profession as a whole is being badly let down.

Many architects will be particularly interested in the suggestion that there should be two stages in the training of architects, each with its own expectation of salaries and advancement. The weakness of the organization of many private offices and public departments is the lack of a category of assistant which is equivalent to the "draughtsman" in the Engineering Office. The survey shows that whilst in small private offices the proportion of principals to assistants is so large that the expectation of principalship for the qualified assistant is fairly good, the larger offices contain frustrated qualified architects whose prospects of promotion are exceedingly small. This surely means that architectural training has not adapted itself to present-day conditions.

It is most definitely in the interests of the profession, the public and the private client, and the intelligent secondary schoolboy with an interest in building and a talent for drawing, that he should have every opportunity to become an architectural draughtsman by means of office training and night school as an alternative to taking the RIBA Final Course in a School of Architecture. Later, if he showed the necessary qualities for passing to Stage 2, there would be nothing to prevent him taking the Special Final.

It is sincerely to be hoped that this proposal will receive serious consideration by the appropriate bodies.

The continued preference on the part of young assistant architects for the private office clearly shows that the organization of many public offices still leaves much to be desired in respect of the interest it provides for, and the responsibility it is prepared to delegate to, younger or lower graded staff. Fortunately, this drawback is being appreciated more and more by the newer Chief Official, whose own assistant days still seem not far behind, and there is evidence that architectural departments in some authorities are organizing themselves into smaller groups, which together with the group leader can work very much on the intimate personal lines of the small private office, with the additional advantage of an ensured and fairly steady continuity of work. By regarding section and group leaders as senior or junior partners in a private firm and by a determined effort to reduce red tape to a minimum, there would seem to be no reason why the public office should not provide the attraction of the private office to the adventurous spirits in the profession.

One thing which is surely clear is that the potential building requirements of the country, particularly now that controls are being relaxed, afford tremendous opportunities which must be grasped by both private and public architects. Each side of the profession should work together to prove to the public that they can design and produce efficiently and economically with modern methods and materials, thus establishing an even higher prestige for architects which, in turn, will lead to even greater opportunities and greater rewards.

From Alan Reiach

SIR,—A point that I think important is the desirability of there being two possible qualifications that students can work for; *viz.* an assistant's degree and a principal's. This is most important in the light of the likelihood of so many "overqualified men" having to accept a low economic status as assistants. Many men who pass through our hands are really not suited to principalship, almost half, I should say from my experience. The æsthetic standards are maintained but the other more imponderable factors of personality, background, etc., are lacking often. Even a RIBA prizewinner may not have it in him to be anything more than a head draughtsman. It may be a sad let-down for him later on when he realises his limitations. This might be avoided by some system of two degrees of qualification.

Another point on education that I feel may be of value is the need for a preliminary probationary year after which a schools man can be sized up, and the advisability of his continuing or otherwise be more accurately assessed than as at present. I believe that there is some scheme afoot at the Regent Street Polytechnic to experiment with such a year in which students of other professions allied to building (engineers, surveyors, building executives) are to start together on a similar course which will allow them to see better where they may fit in to the scheme of things.

From R. H. Uren

SIR,—One important investigation which Professor Bowen's survey has omitted to make is that of preference for type of employment, assuming conditions were "normal." In 1949 a large majority preferred employment in private practice.

In the case of students, a high proportion of whom may now be assumed to be registered, the preference was 81 per cent. for private practice and 14 per cent. for official employment.

The conclusion that private practice now tends to absorb a slightly higher proportion of younger men shows that conditions now allow a few, at least, of the 81 per cent. to follow their preference.

There can be little doubt that it is economic circumstances arising from the trend to officialise most fields of professional service, rather than individual wish, which forces architects, doctors and others into the more secure way of livelihood.



RIBA

President talks to Students

"If our forward march in contemporary architecture is today a little hesitating, I think it is because, in school and out of it, we are forgetting that the basic test for a piece of architecture, underlying the quality of its expression, is its practical answer to the problem in terms of satisfactory composition."

That was the theme of Howard Robertson's address to students—his last as RIBA president—at the Institute's headquarters on February 2.

"I have made two inaugural addresses," said Mr. Robertson, "and I have not wasted time in re-reading them. Of one thing I am conscious, that in the parts of them that dealt with architecture I was both woolly and inevitably pompous. The reason is, of course, that none of us has got all the answers, and the really wise ones should refuse to commit themselves.

"What I have re-read, however, are the addresses of Michael Pattrick and Barnett Freedman at the AA Prize-giving in July. I have gone further back and read Lewis Mumford's talk at the AA in May, 1953.

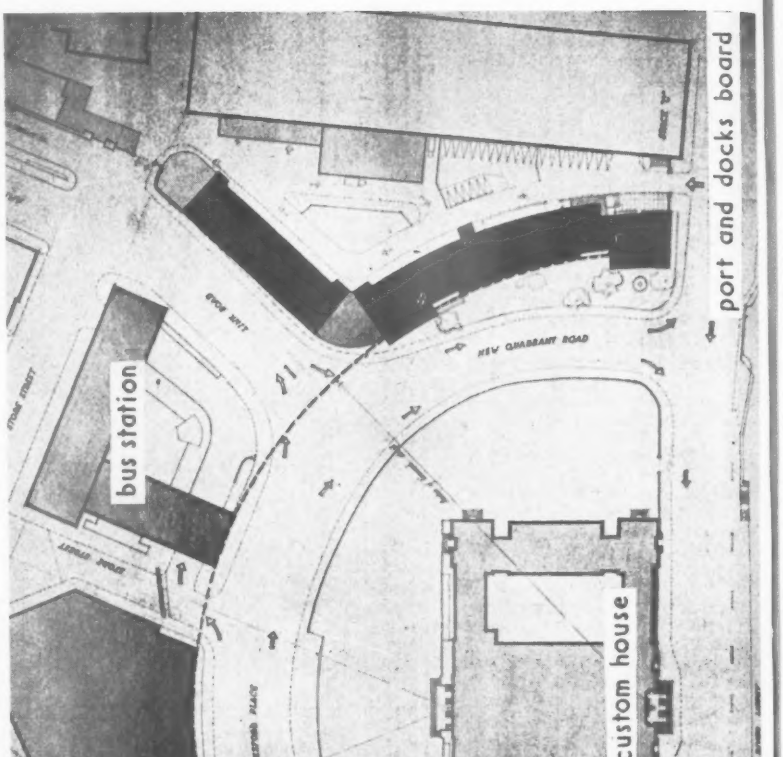
"In all these addresses there have been sounded notes in varying degrees suggesting bewilderment, uncertainty, or even despair. Where are we going, if anywhere? Where are the leaders, now that Mr. Mumford has isolated and pinned down the scope of the contributions of such men as Mies, Le Corbusier and F. L. Wright, and he and others have achieved a partial 'debunking' of some spectacular modern buildings?"

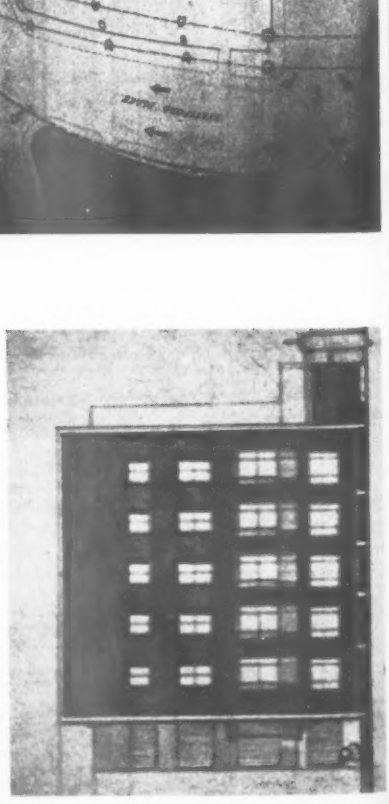
Mr. Robertson answered his question, later in his talk, by saying that he regarded the call, sometimes heard today, for great leaders, as one unlikely to be answerable, and disappointing were it answered; especially since great leaders were generally great individualists, and their paths did not converge on any platform of ideals that could be focused and pin-pointed for teaching purposes.

"The principle that I would suggest as more directly applicable," he said, "is a return to the conception of architectural design as, basically, a solution.

"In approaching this search for a solution, we should throw away all thoughts of being like Corb, like Mies, or anybody else. If one studies their work as a stimulus it should be from the angle of the solution *they* offered to *their* problems, and not from that of what the buildings looked like."

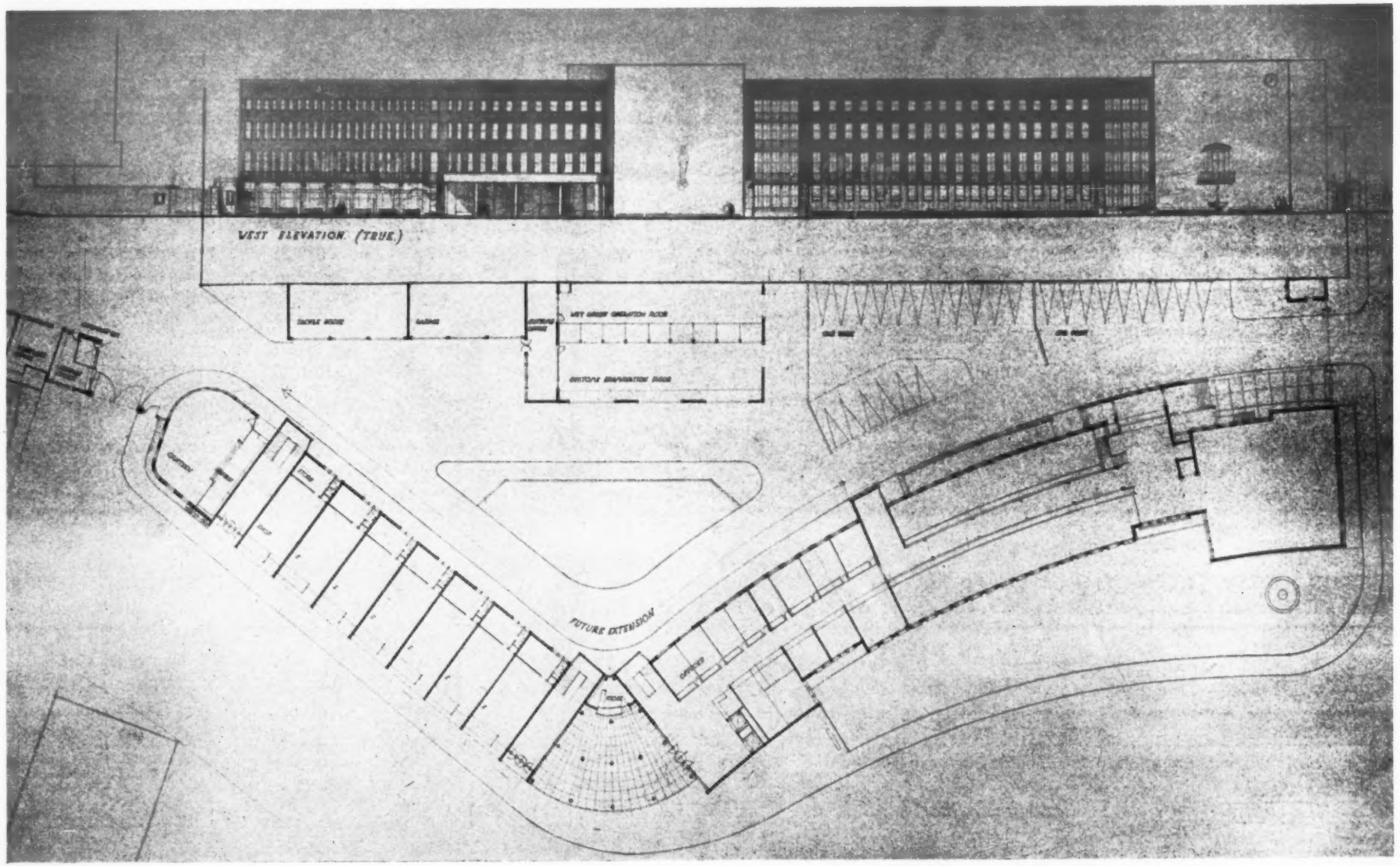
WINNING DESIGN FOR THE DUBLIN PORT AND DOCKS BOARD HEADQUARTERS COMPETITION





Alan Hope of Dublin has been awarded the second premium of £500 in the competition for a £500,000 head office building organized by the Dublin Port and Docks Board. (No first premium was awarded by the assessors.) On this and the opposite page we show the design of Alan Hope. Below is the south elevation, on the right the site plan. On the opposite page is the west elevation and the ground plan. The third premium was awarded to Liam Boyle, and fourth to G. P. O'Brien, B. Morris, and D. McCullough, all of Dublin. The assessors, John in this competition. We consider the standard reached by the competitors is disappointing, particularly as regards planning. We regret we are unable to recommend any one of

to G. P. O'Brien, B. Morris, and D. McCullough, all of Dublin. The assessors, John M. Fairweather, F.R.I.A.I., Vincent Kelly, B.Arch., F.R.I.A.I., and Alfred E. Jones, F.R.I.A.I., said in their report: "We have examined 28 designs which have been submitted in this competition. We consider the standard reached by the competitors is disappointing, particularly as regards planning. We regret we are unable to recommend any one of the designs for acceptance and we therefore do not award the first premium."



Mr. Robertson's talk was followed by a criticism, by Basil Spence, of work submitted for RIBA prizes and studentships. He said: "In many ways, I feel the competition for these ripe plums is not fierce enough. How I wish I was free to travel to Greece or Spain, or parts of the Mediterranean. This period only comes once before we get tied to our practices and, apart from the adventure of travel after the award has been made, the adventure of the chase during the competition stage is well worth enjoying for its own sake. I sincerely hope that, next year, there will be even stronger competition for the prizes, though this year has shown an improvement on last."

"Don't Enter for this Competition"

The architectural competition promoted by the Government of the Grand Duchy of Luxemburg for the equipment of railway installations has conditions which are not (says the RIBA) in accordance with the Regulations for International Competitions in Architecture and Town Planning approved by the International Union. The RIBA warns its members and students not to take part in the competition.

COMPETITION

Canadian Home of Tomorrow

Calvert Distillers Limited are holding a competition for the design of a house for a Canadian family of five (parents and three children under 15). The competition is open to all architects who are members of recognized architectural societies in Europe and Canada (in GB the RIBA). Architects in the USA, the USSR and all Asiatic countries are, apparently, barred. The winning premium is $5,000.00. The best Canadian entry receives $2,500.00, the best European, also $2,500.00 and ten honourable mentions receive $200.

Architects' employees and students may also compete. The assessors are Eric Arthur, Professor of Architecture, University of Toronto; Humphrey Carver, A.R.I.B.A., Chairman of the Research Committee, Central Mortgage and Housing Corporation, Ottawa, and Gio Ponti, architect. Application to compete must be sent to the Director of the School of Architecture, McGill University (who are sponsoring the competition) by March 1. Designs must be posted by April 15. Further particulars can be obtained from the RIBA.

FAS/FS(Eng.)

Annual Dinner

Proposing the toast to the joint Faculties of Architects and Surveyors and Surveyors of England, at their annual dinner at the Mayfair Hotel, last week, Pembroke Wicks, the Registrar, reminded the Faculty of its opportunities as an independent professional body. The two Societies, he said, are the professional advisers of the owners of property and these are very exacting professions. Mr. Wicks pointed out that the seniority of the RIBA does not prevent other societies from deveolping along their own lines. Once the only form of architectural examination was that held by the RIBA and consequently the virtues of this qualification being obvious, the RIBA attracted a large membership. Since the Registration Acts, however, the RIBA examinations were essential for all architects before they could practise. With a common standard for entry it was up to the different professional bodies to seize the opportunity to attract membership.

Replying to the toast, George Fox, the President, announced that Sir Alfred Bossom had consented to become an honorary fellow of the Faculties. He went on to propose James Rushton as his successor in November. ("He could fulfil any task with even greater efficiency than I could myself.") He described how the Faculties had been seeking headquarters for the past year and he hoped that before the close of his term of office that he would have the pleasure of seeing members in their new headquarters.

Mr. Fox went on to say that the time was due when we had to review the whole question of the building industry. The steadily rising cost of building, he said, might jeopardize not only the building industry, but the profession as a whole.

James Rushton proposed the health of the guests and Sir Alfred Bossom replied.

SCHOLARSHIP

For RIBA Associates

The Trussed Concrete Steel Co. Ltd., of Lower Marsh, S.E.1, offer a Travelling Scholarship of £100 to enable an Associate of the RIBA to undertake a continental tour of about three weeks' duration. The winner will be accompanied by a member of the company's technical staff awarded a similar scholarship, and they will be required jointly to study interesting reinforced concrete work on the Continent of Europe, with particular reference to the collaboration between architect and engineer. A joint report will be prepared, the use and copyright of which will remain at the disposal of The Trussed Concrete Steel Co. Ltd. Applicants must be under 35 years of age and must provide evidence of their office experience and of their special interest in the subject of the scholarship, *i.e.*, the use in contemporary architecture of reinforced concrete.

Applications must be submitted by April 5, 1954, to the Secretary, The Trussed Concrete Steel Co. Ltd., Lower Marsh, S.E.1, and must contain the following particulars:—(1) Age. (2) Architectural education. (3) Academic qualifications. (4) Present occupation or employment. (5) Evidence of the candidate's suitability for appointment to the Scholarship. A knowledge of one or more European languages would be of value. (6) The names of two persons to whom reference may be made regarding the candidate's fitness for appointment to the Scholarship.

The applications will be considered by a Selection Committee consisting of two representatives of the RIBA and one representative of The Trussed Concrete Steel Co. Ltd.

BIRMINGHAM

More Responsibility for City Architect

The Birmingham City Council, on February 2, 1954, decided by a large majority to agree to the recommendation of the general purposes committee that the architectural branch of the education department should be transferred to the control of the city architect. Birmingham's city architect is A. G. Sheppard Fidler. The deputy city architect, who was until recently architect to the education committee, is J. R. Sheridan-Shedden.



Lt. Col. A. E. Henson, who was recently elected president of the IAAS, is a partner in the firm of Sir John Brown, A. E. Henson and Partners, of London and Northampton. A letter from him appears on page 180.

DIARY

Three Final Designs in the Competition for the Royal Armoured Corps Memorial. On view at the RIBA, 66, Portland Place, W.1.
UNTIL FEBRUARY 20

British Furniture Trades Exhibition. At Earls Court. (Public admitted on Saturday 20 from 10 a.m. to 9 p.m., and Monday 22 to Thursday 25 from 2 p.m. to 9 p.m. only.)
FEBRUARY 15 TO 25

Fuel Efficiency and Smoke Abatement Exhibition. At Charing Cross Underground. Weekdays 10 a.m. to 8 p.m.
FEBRUARY 15 TO MARCH 9

Some Aspects of Slum Clearance. Dr. Ronald Bradbury. At the HC, 13, Suffolk Street, S.W.1 6 p.m.
FEBRUARY 16

Architecture in Elizabethan England. III. The Houses of Lord Burghley and his Circle. John Summerson. At the Courtauld Institute of Art, 20, Portman Square, W.1. 5.30 p.m.
FEBRUARY 16

The Prestressed Concrete Framework for the Liverpool University Medical School. E. Shepley. At 11, Upper Belgrave Street, S.W.1. (Sponsor: RCA.) 6 p.m.
FEBRUARY 17

Recent Developments in Vacuum Concrete. Major L. A. Leech. At the RCA, 4/98, Petty France, S.W.1. 6 p.m.
FEBRUARY 17

An Experiment in Modular Co-ordination at Antwerp. Professor Hugo van Kuyck. At the RSA, John Adam Street, W.C.2 (Sponsor: The Modular Society.) 7.30 p.m.
FEBRUARY 17

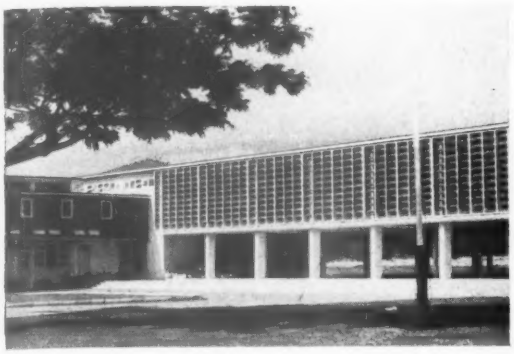
The London Skyline. A. G. Ling. At University College, Gower Street, W.C.1, in the Anatomy Theatre. 1.15 p.m. to 2 p.m.
FEBRUARY 18

RIBA Dinner. At Grosvenor House, Park Lane, W.1. 7 for 7.30 p.m.
FEBRUARY 19

28th Annual Country Meeting at Exeter. TPI. For particulars apply The Secretary, TPI, 18, Ashley Place, S.W.1.
MAY 7 TO 9

Town and Country Planning Summer School. At the University of St. Andrews. (Sponsor: TPI.) For particulars apply to The Secretary, Town and Country Planning Summer School, 18, Ashley Place, S.W.1.
AUGUST 28 TO SEPTEMBER 4

BUILDINGS IN THE NEWS



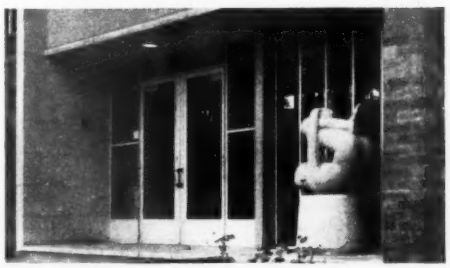
Senate House, University College, West Indies

This Senate House, for which the architects are Norman and Dawbarn, was opened by the Queen (photo on right) last November. Other buildings completed in this scheme are seven science departments, an arts block with lecture rooms, the library, a hospital and nurses' home, an institute for social and economic research, three halls of residence and 50 or more houses for the staff.



School at Atherstone, Warwickshire

Atherstone South County Infants' School, Warwickshire, was designed for the Warwickshire County Council by C. H. Elkins, county architect (retired), G. R. Barnsley, county architect, B. S. Tempest, chief assistant architect, A. E. Smith, architect in charge of the job. The sculpture at the main entrance (photo on right) is by Walter Ritchie, of Kenilworth.

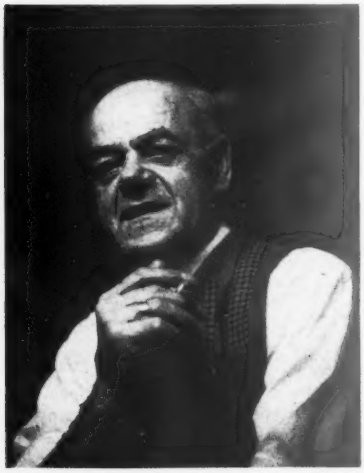




OBITUARY

Everard Read : "Vintage Member of the journal *staff".*

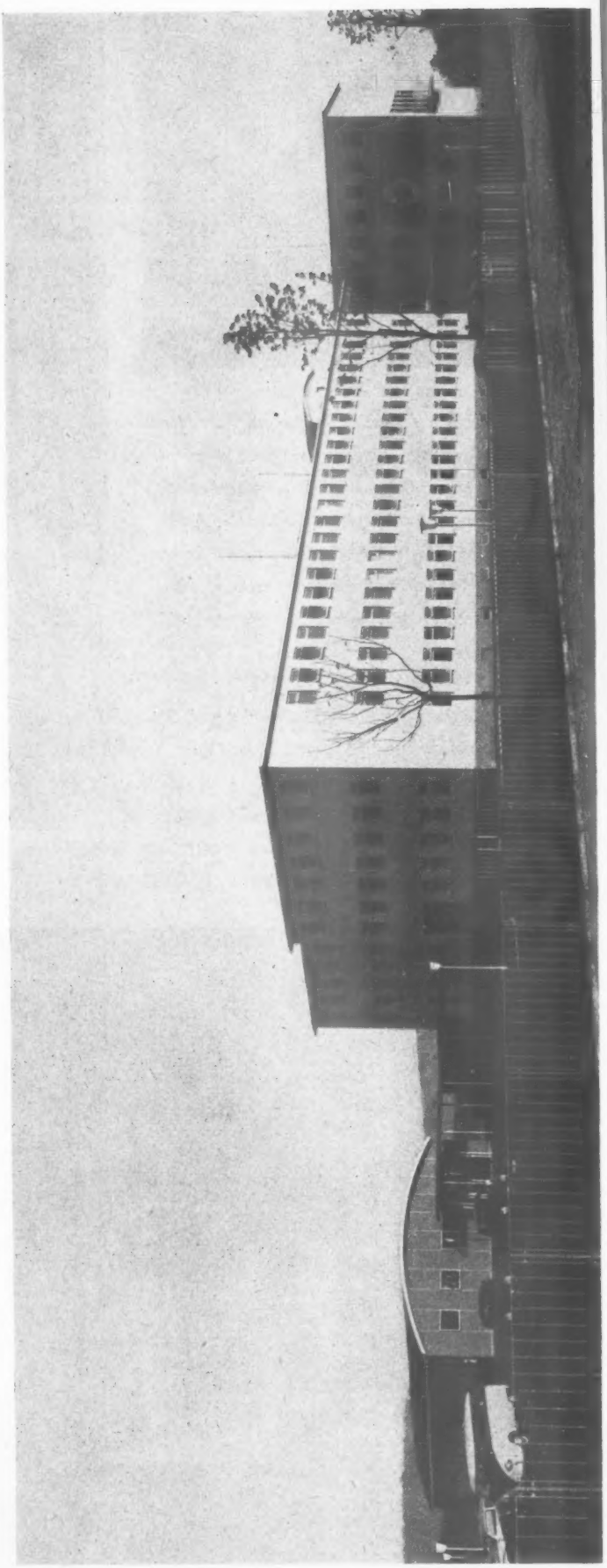
Many architects who remember pre-war days will join with the staff of the JOURNAL in regretting the sudden death of Everard Randolph Hutchings Read. He was, by many years, the vintage member of the JOURNAL staff, having joined the Architectural Press in 1919, after working for some years as an assistant in an architect's office and, then in Fleet Street on the *Daily Mirror*. He served throughout the Great War with the Royal Warwickshire Regiment. From 1919, until a severe motoring accident early in the last war (a bus ran into his car in the blackout) he worked as a journalist and news reporter on the JOURNAL, being largely responsible for the illustration of new buildings and competition results. After he had recovered from this accident he began to concentrate on photography and he was frequently in sole charge of the photographic arrangements of the paper.

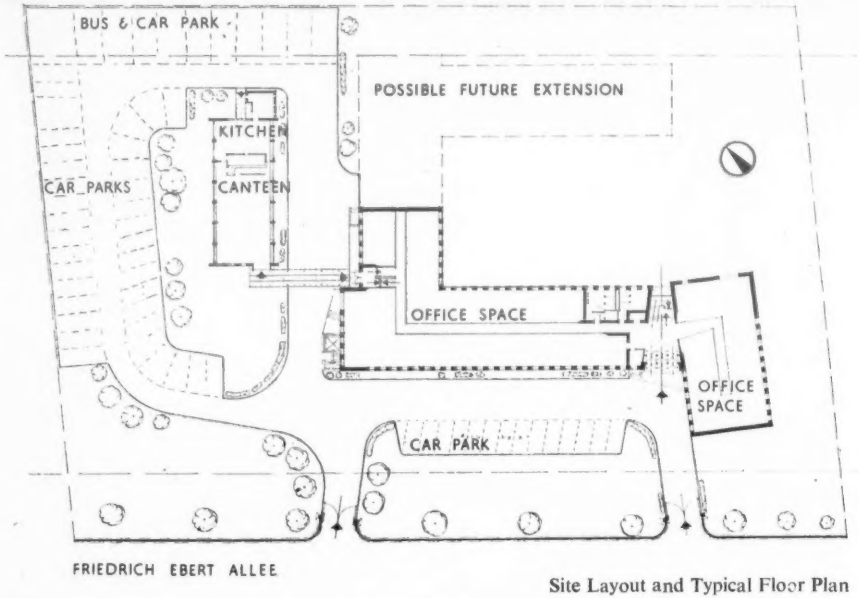


In the last few years, however, age, and even more, the effect of shrapnel and gas in the '14-'18, war caused him to relinquish some of his more active duties, though he still gave all his time to the JOURNAL and to what had by now become his hobby as well as his living—photography. Much of the photography in the JOURNAL during the last years has come from him.

Everard Read was known, and loved, for his good nature, kindness and humour. He was exactly what is meant by the typical Londoner—cheerful, patient, equable and never without a cockney jest. Chelsea—with its Palace and its Six Bells—was his spiritual home, and he was never happy for long away from London. Hedges, trees and green fields seemed to him to be dull redundant things, and it was typical that when he was forced to go away on holiday he always went to another town—Swindon as often as not, where for many years he turned himself into a publican and served beer behind a friend's bar. About architects he had many anecdotes from the years when he used to visit them. In recent years he was the friend-in-need to all juniors on the JOURNAL staff, a pillar of Queen Anne's Gate, beloved of artists, editors, directors and office boys. He will be greatly missed, both at the Architectural Press and in his old haunts in the London borough which he knew so well, and in which he was so well liked.

OFFICES FOR THE UK HIGH COMMISSIONER, BONN, WEST GERMANY





Site Layout and Typical Floor Plan



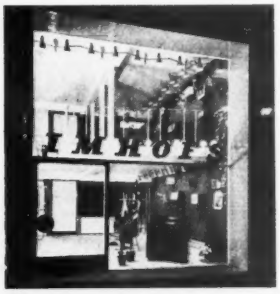
This three-storey building at Bonn for the offices of the UK High Commissioner has been completed by the Ministry of Works. It was designed by the Chief Architects Division; the architect-in-charge was R. P. Mills, the local associate architect was Herr Walter Colombo and the building work was carried out by German contractors under the supervision of a British Clerk of Works, M. Richards. The site covers 2¼ acres and the building has an overall floor area of 42,500 sq. feet.. It is constructed with load-bearing external and spine walls with simple reinforced concrete floors and roof. The main entrance doors, seen in the photo extreme right, are of mahogany with internal lobby doors of armour plate glass with "crown" etched motif. Artificial lighting is by daylight fluorescent tubes, but the entrance hall and staircase have specially designed tungsten fittings. Heating and domestic hot water are supplied by three boilers in the sub-basement, the heating boilers being hopper-fed from fuel storage at high level. The canteen, seen on the left of the photograph above, is housed in a separate building linked to the main office by a covered way. This building has a frame of reinforced concrete with a curved roof covered with dark blue, asbestos-cement, corrugated sheets. The timber windows have been specially designed and the panels under have been filled in with vertical boarding. The photograph top right shows the building from the South. The one on the right shows part of the main staircase.





SHOP ALTERATIONS

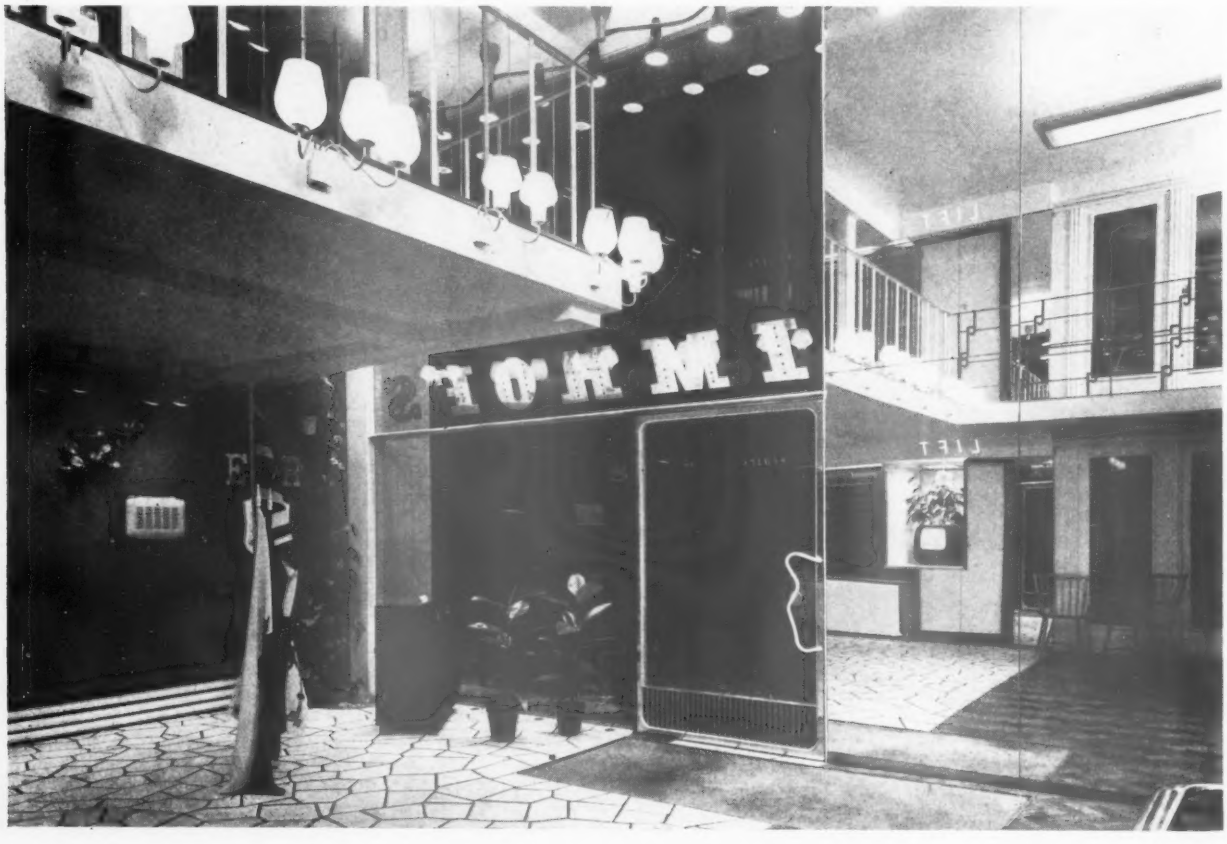
1. in NEW OXFORD STREET, LONDON, W.C.1
designed by TAYLER and GREEN
2. in REGENT STREET, LONDON, W.1
designed by MICHAEL RACHLIS

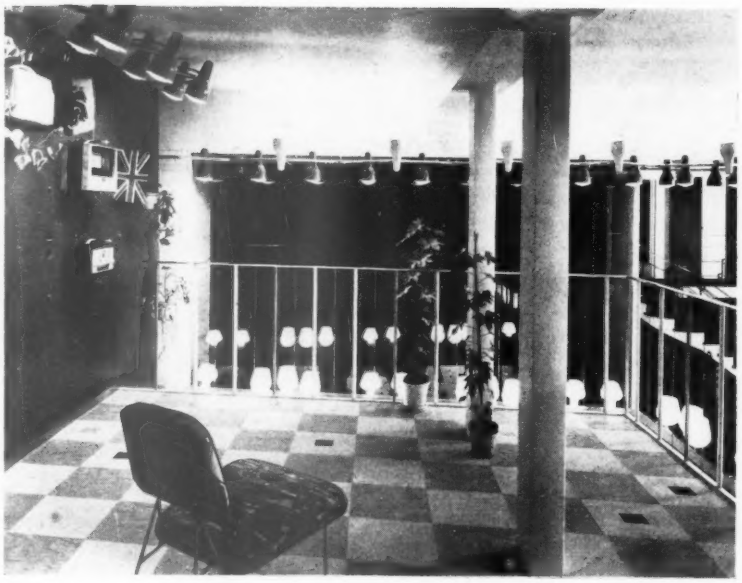


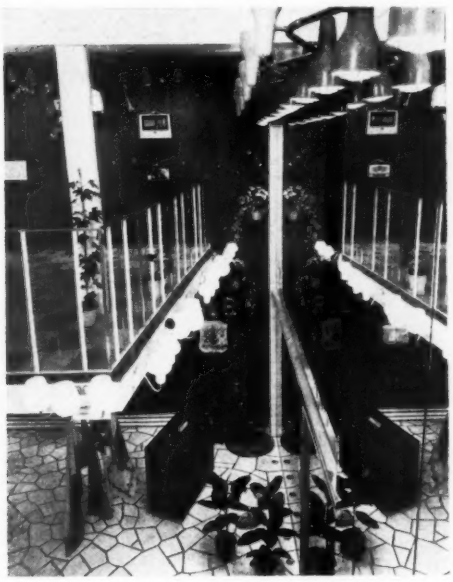
New show window and entrance.

The first stage of alterations to the premises of Alfred Imhof, Ltd., New Oxford Street, enlarges the shop by the removal of a ground floor passage and record audition rooms on the mezzanine. The building, which was designed by Robert Atkinson in 1929, is steel framed, and it was found that the mezzanine floor slab is suspended from the steel frame and not supported from below. Thus it was possible for a partition wall beneath the mezzanine to be removed, leaving the whole ground floor shop area clear.

The new entrance looking towards the street.







SHOP ALTERATIONS

in NEW OXFORD STREET, LONDON, W.C.1

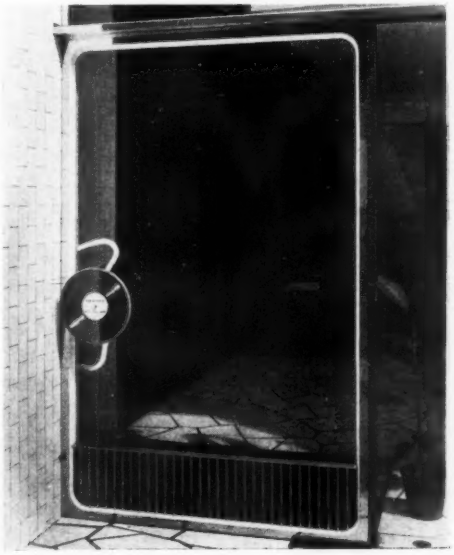
designed by TAYLER and GREEN



Ground floor plan Mezzanine plan [Scale : $\frac{1}{16}$" = 1' 0"]

GENERAL.—The new window to the street is set in a slightly wider opening than previously. The glass has no frame and is set well back from the pavement. Above the horizontal transome is lettering in copper, and the reveals to the opening are lined with white tiles to enliven the black granite, with which the building is faced. It was decided to have a single, wide entrance door, in place of two narrow ones, as being simpler in use. The white marble floor covering at ground level is laid beyond the show window to the edge of the pavement. Ceilings, radiators and glass light fittings are white: the wall at right angles to the street is faced with scarlet linoleum. Holes are punctured in this wall to take brass rods, which carry goods on display, and plants. Mezzanine columns, sign boards and metal light fittings are green, the mezzanine floor is covered with grey-and-white linoleum tiles with small inserts in red, yellow, green and black. The entire wall inside the entrance door is covered with mirror glass, except where a small illuminated display case has been placed to define the wall for customers' safety and as an access to the exterior display case. The existing stairs and lift have been made more visible and accessible than before, and between the lift and the door leading to the stairs is a new sign board with lettering on glass against a green silk background. The general contractors were Courtney, Pope, Ltd. For sub-contractors, see page 204.

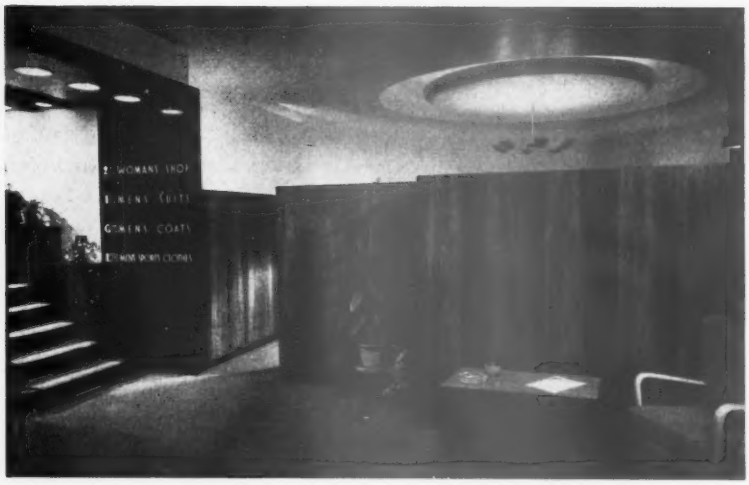
Top left, the mezzanine floor, looking towards the street. Top right, from mezzanine level, looking towards the display wall. Right, entrance door from New Oxford Street. Below, illuminated sign consisting of letters outlined in white neon tubing against a sheet copper frame with 15 watt bulbs fixed in it.

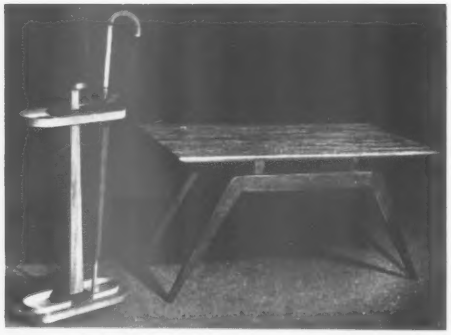






Left, the newly-designed main entrance from Regent Street. Below left, part of the ground floor, where men's coats are displayed. Below, two pieces of furniture designed by the architect. Bottom right, part of the third floor, which is used for offices and a reception room.







SHOP ALTERATIONS

in REGENT STREET, LONDON, W.1
designed by MICHAEL RACHLIS

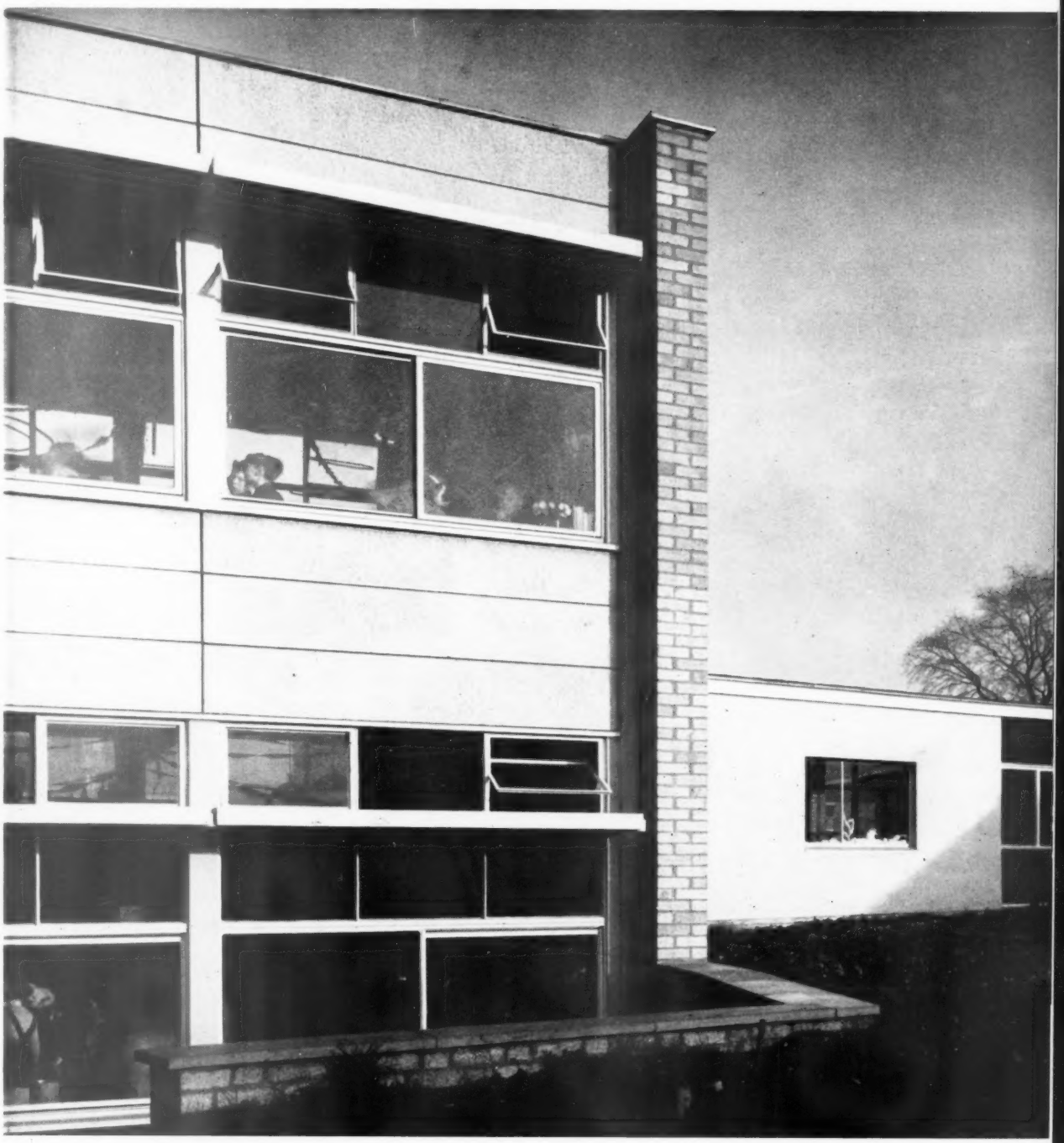
GENERAL.—The alterations and redecorations to the Regent Street premises of Aquascutum, Ltd., were confined to the men's coat department on the ground floor and a reception room and offices on the third floor. At the main entrance a vestibule has been formed to the street, so that customers can see goods in daylight without leaving the shop. Floors are close carpeted throughout, the colour being lizard green. Woodwork on the ground floor has a veneer of African stinkwood and on the third floor sapeli mahogany is used. The cost of the alterations was £16,032. The general contractors were H. N. Barnes, Ltd. For sub-contractors, see page 204.

WORKING DETAIL

WINDOWS: 20

WINDOW WALL: SCHOOL AT OLDBURY, WORCESTER

F. R. S. Yorke, E. Rosenberg and C. S. Mardall in association with F. W. B. Yorke and H. M. Barker, architects

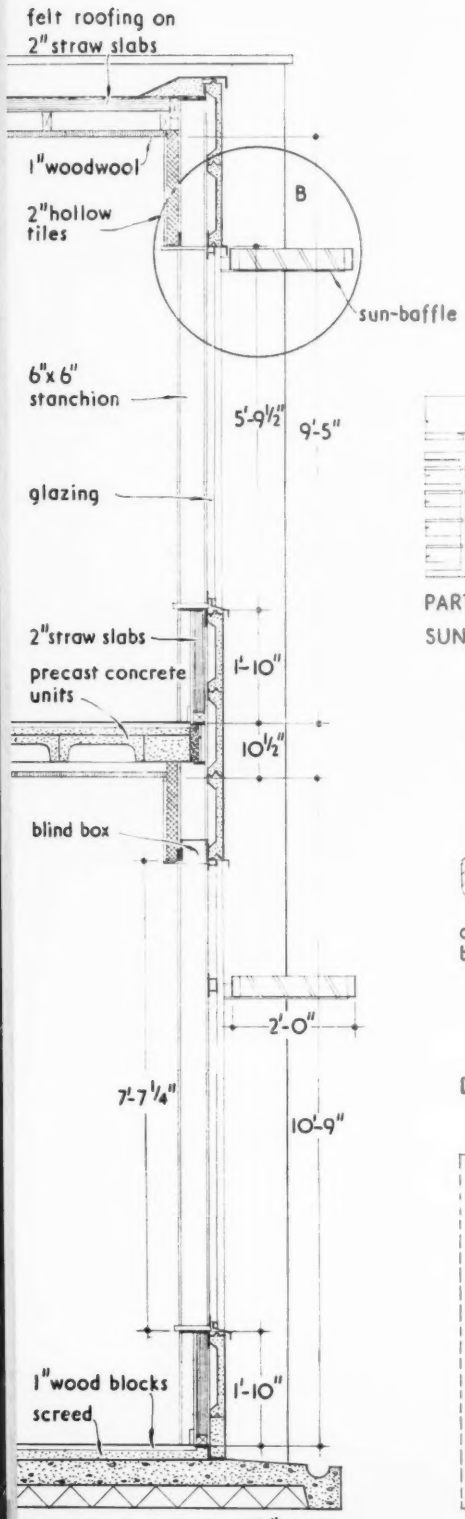


The chief interest in this detail centres around the hardwood sun-baffle and in the flashing which was required at the point of junction of its supporting bracket with the stanchion. The precast concrete slabs which comprise the cladding are attached direct to the stanchions at points which do not appear on the drawings.

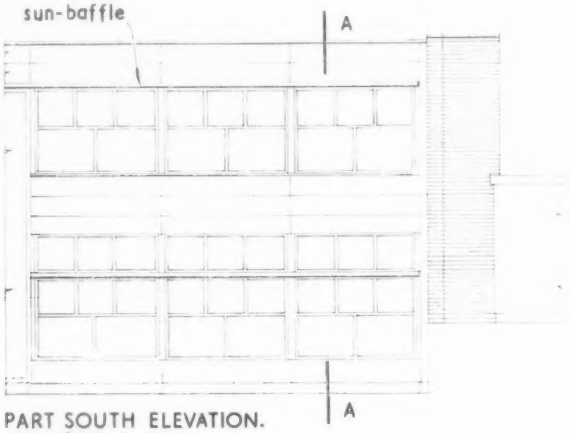
/ORKING DETAIL

WINDOW WALL: SCHOOL AT OLDBURY, WORCESTER

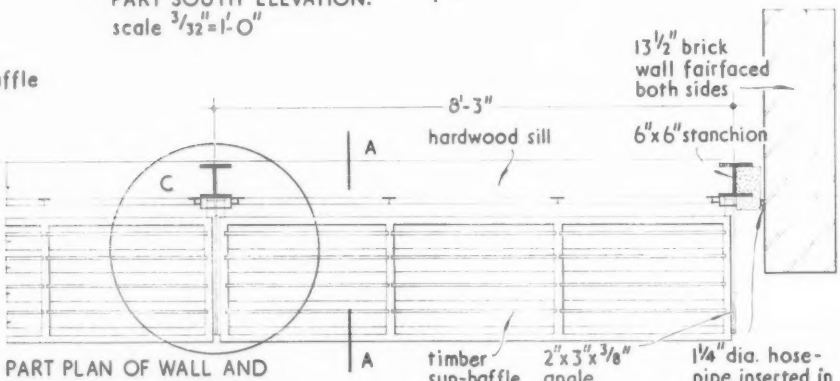
F. R. S. Yorke, E. Rosenberg and C. S. Mardall in association with F. W. B. Yorke and H. M. Barker, architects



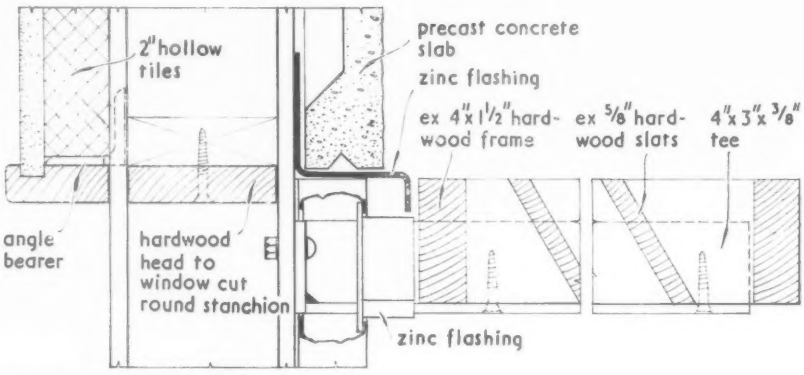
SECTION A-A. scale 3/8"=1'-0"



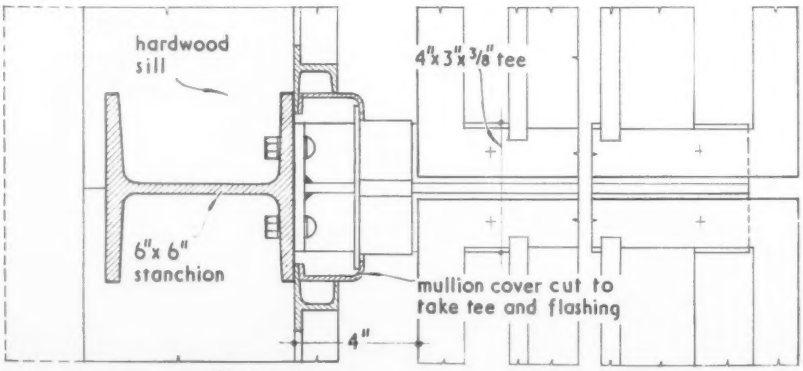
PART SOUTH ELEVATION.
scale 3/32"=1'-0"



PART PLAN OF WALL AND SUN-BAFFLE. scale 3/8"=1'-0"



DETAIL AT B. scale 3/16"=1"



DETAIL AT C. scale 3/16"=1"

WORKING DETAIL

ROOFS AND CEILINGS: 15

HEATING AND LIGHTING PANELS: SHOWROOMS IN LONDON, W.1

Sergei Kadleigh, architect

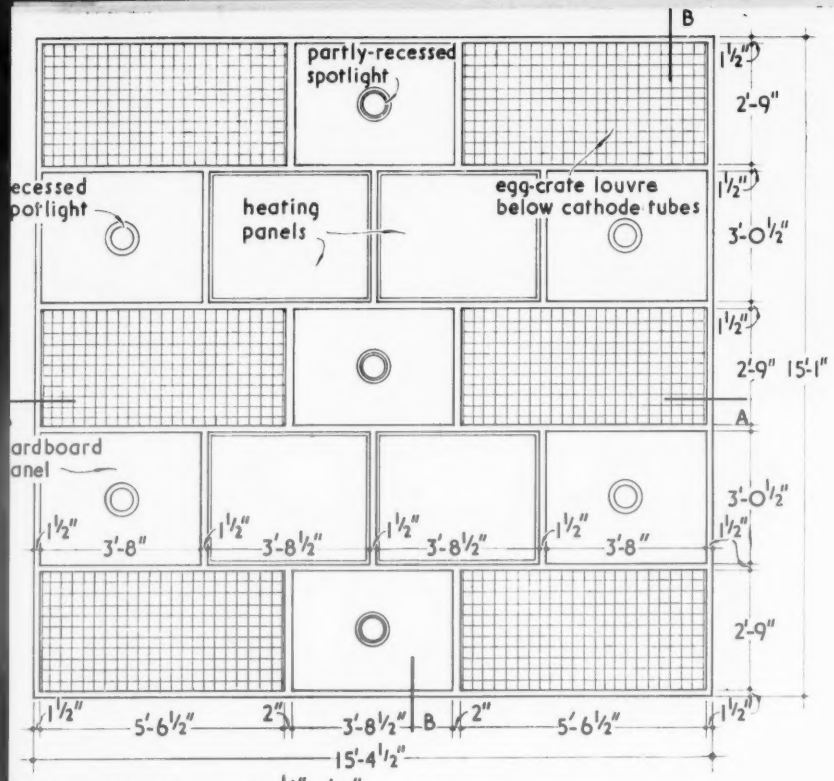


Three types of unit are incorporated in this false ceiling: egg-crate louvres with cold cathode tubes above, hardboard panels with inset spotlights and metal heating panels. The support of the false ceiling raised a difficult problem since, as the building was old, the ceiling joists were not strong enough to carry the additional weight. Two rolled steel joists, built up in a cranked form, were therefore run from wall to wall, designed to appear below the plaster ceiling in positions where they could not be seen by people in the room.

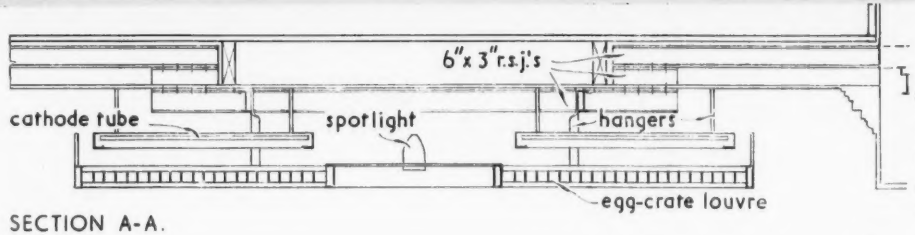
WORKING DETAIL

HEATING AND LIGHTING PANELS: SHOWROOMS IN LONDON, W.1

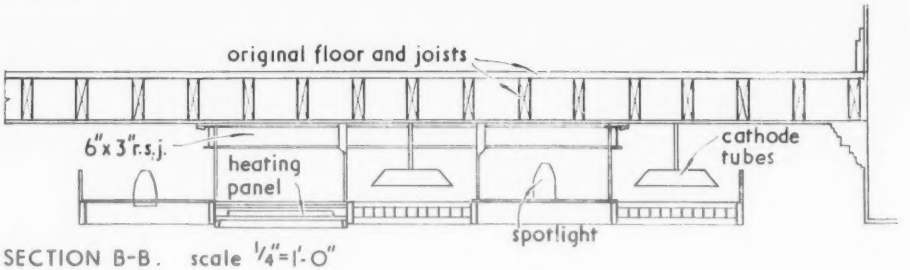
Sergei Kadleigh, architect



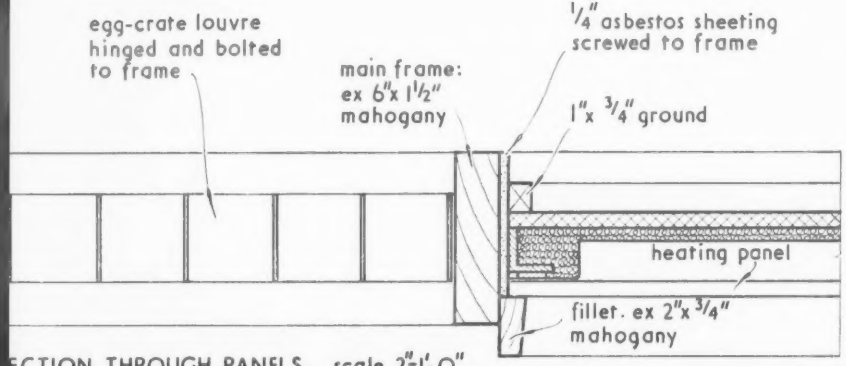
PLAN OF PANELS. scale ¼"=1'-0"



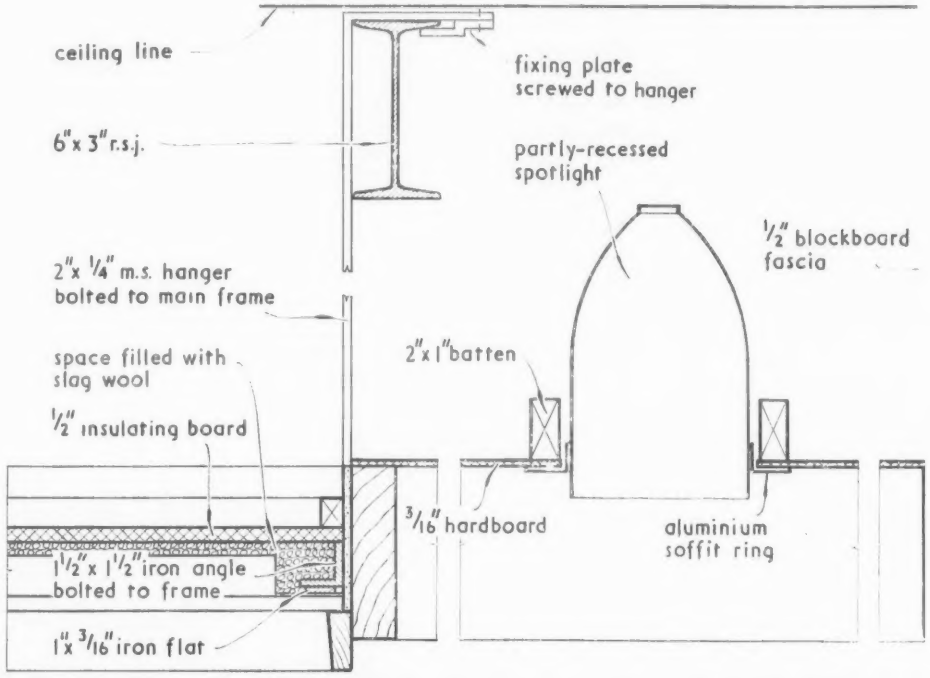
SECTION A-A.

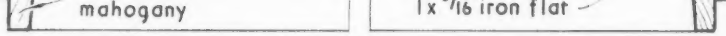


SECTION B-B. scale ¼"=1'-0"



SECTION THROUGH PANELS. scale 2"=1'-0"





ECTION THROUGH PANELS. scale 2"=1'-0"

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FLATS

in WHITEFOOT LANE, CATFORD, LONDON, S.E.6

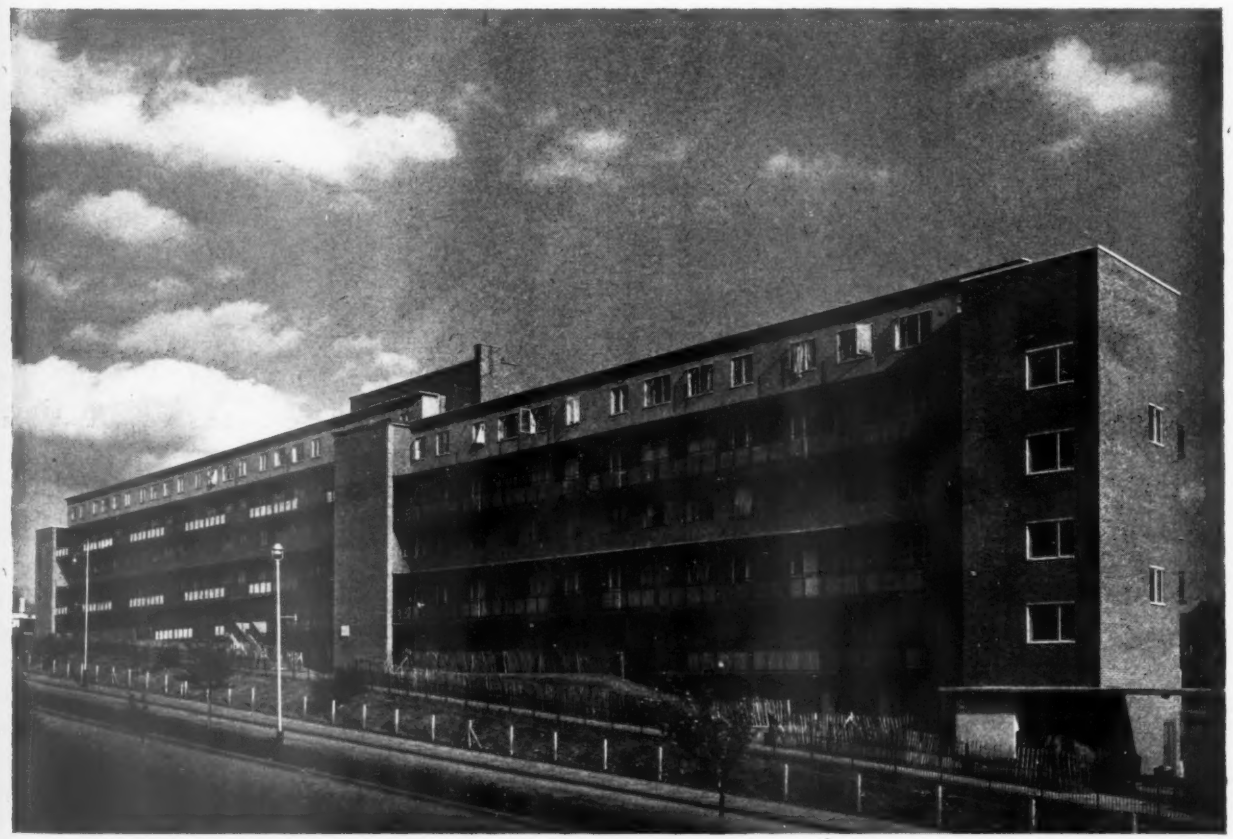
designed by FRY, DREW and PARTNERS

consulting engineers, OVE ARUP and PARTNERS

quantity surveyor, OSWALD E. PARRATT

Forster House is a block of 18 flats and 36 maisonettes, over 400 ft. long, on a narrow site with a fall from east to west of about 18 ft. over the length of the block. The site is at the top of a hill with a long view towards the south and access from Whitefoot Lane on the north. The building is stepped down the contours with a break, near the centre, of one floor in height, where the lift and a staircase are situated.

From the north-west, looking across Whitefoot Lane.





Above, from the west; in the foreground the covered way leads to the communal laundry on the right.

FLATS

in WHITEFOOT LANE, LONDON, S.E.6

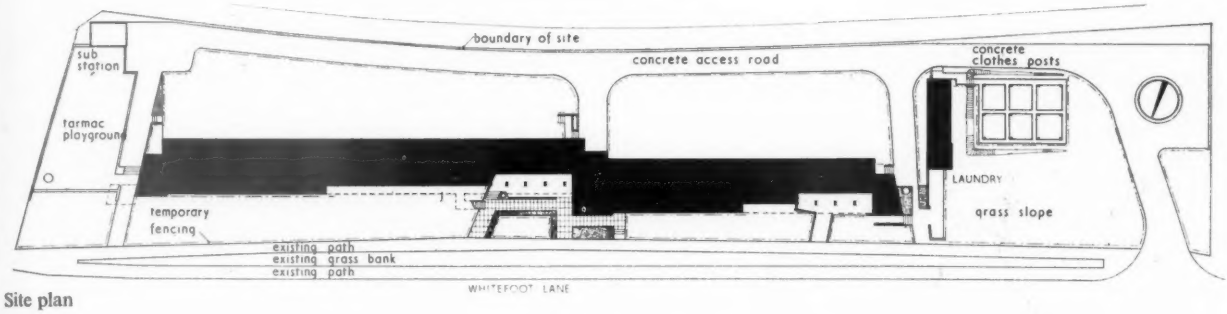
designed by FRY, DREW and PARTNERS

SITE.—There is only one access for traffic, at the north-west corner of the site, and there is a service road along the south boundary. At the west end of the site is a drying area, near the communal laundry, and at the east end is a children's playground.

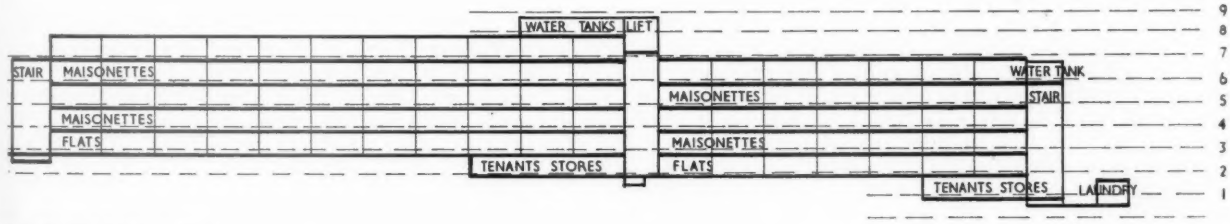
PLAN.—On the ground floor, at two levels, are one-bedroom flats. On upper floors are two levels of maisonettes, each with three bedrooms. Access is by balconies on the north side of the block, serving the ground floor flats and the lower floors of maisonettes. There is one lift, near the centre of the block, and staircases at this point and at each end. All living rooms and main bedrooms face south and each maisonette has a private balcony on the south facade.

CONSTRUCTION.—External walls and party walls are mainly of load-bearing brickwork, carrying floors of 5-in. reinforced concrete slabs or, in the case of floors between upper and lower maisonette levels, of 7-in. by 2-in. timber joists at 15-in. centres and ¾-in. boarding. Down the centre of the block, longitudinally, are r.c. beams 9 in. wide and varying in depth from 6 in. to 10 in. Roofs are a 6-in. r.c. slab and main staircases are also of r.c. Maisonette staircases are of timber.

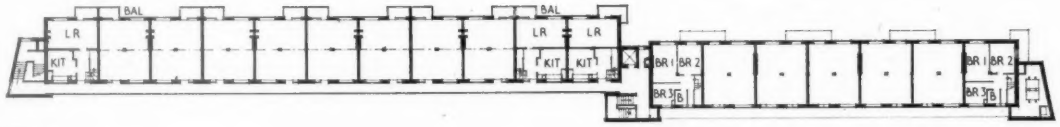
FINISHES.—Roofs are covered with ¾-in. asphalt and sarking felt on screed, and balcony canopies are covered with felt. Floors are finished with 1-in. granolithic on access balconies, linoleum in flat bedrooms, kitchens and entrance lobbies, timber boarding in maisonette bedrooms and thermoplastic tiles in living rooms. Circulation space on the ground floor is finished with paving slabs and, in certain places, flint cobbles and granite setts. Ceilings to lower maisonette floors are of plasterboard finished with skim coat; other ceilings have ⅝-in. plaster. Balconies have ironwork balustrades and panels of asbestos sheeting.



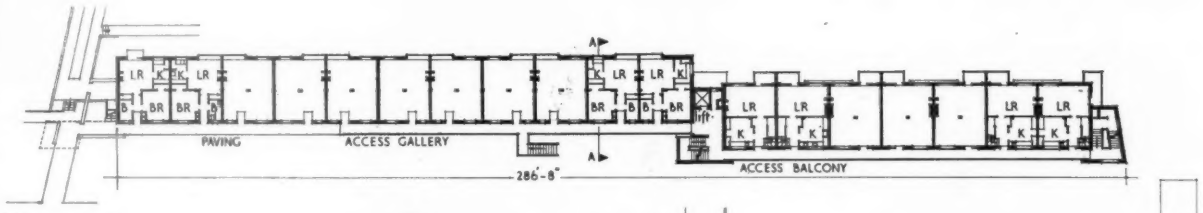
Site plan



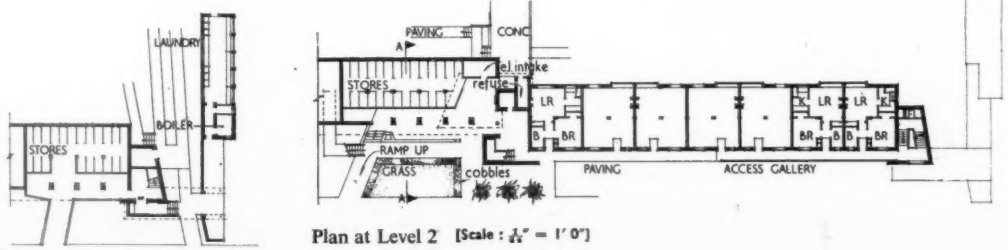
Longitudinal key section



Plan at Level 6

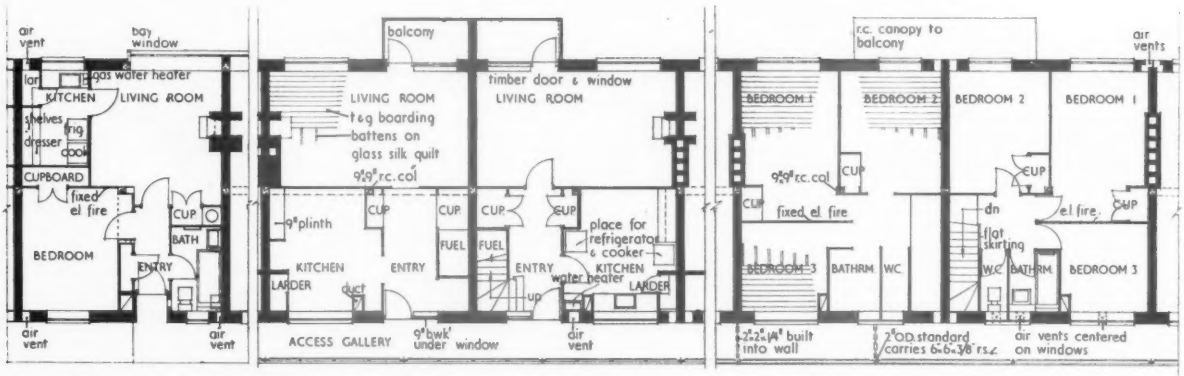


Plan at Level 3



Plan at Level 1

Plan at Level 2 [Scale : $\frac{1}{16}$" = 1' 0"]



FLATS

Typical ground floor flat plan and lower and upper floor maisonette plans [Scale : $\frac{1}{16}$" = 1' 0"]

in WHITEFOOT LANE, LONDON, S.E.6

designed by FRY, DREW and PARTNERS



Left, the south façade from the south-west. Each maisonette living room has a private balcony. On the ground floor are one - bedroom flats.

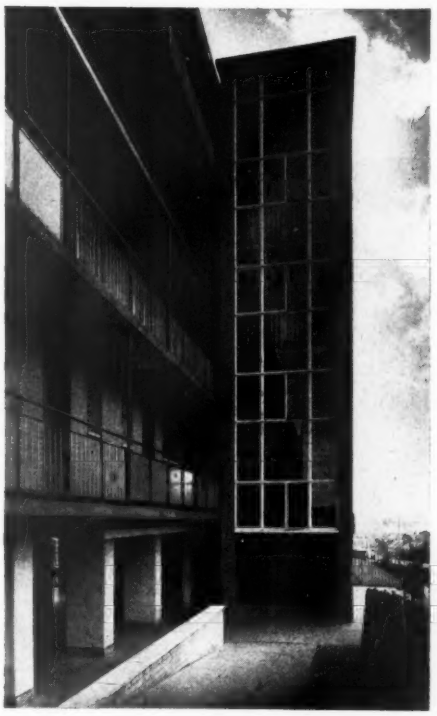
SERVICES.—Living rooms are provided with gas-fired, coke-burning open fires, designed for overnight burning. Bedrooms have built-in electric fires and hot water is from multi-point gas water heaters.

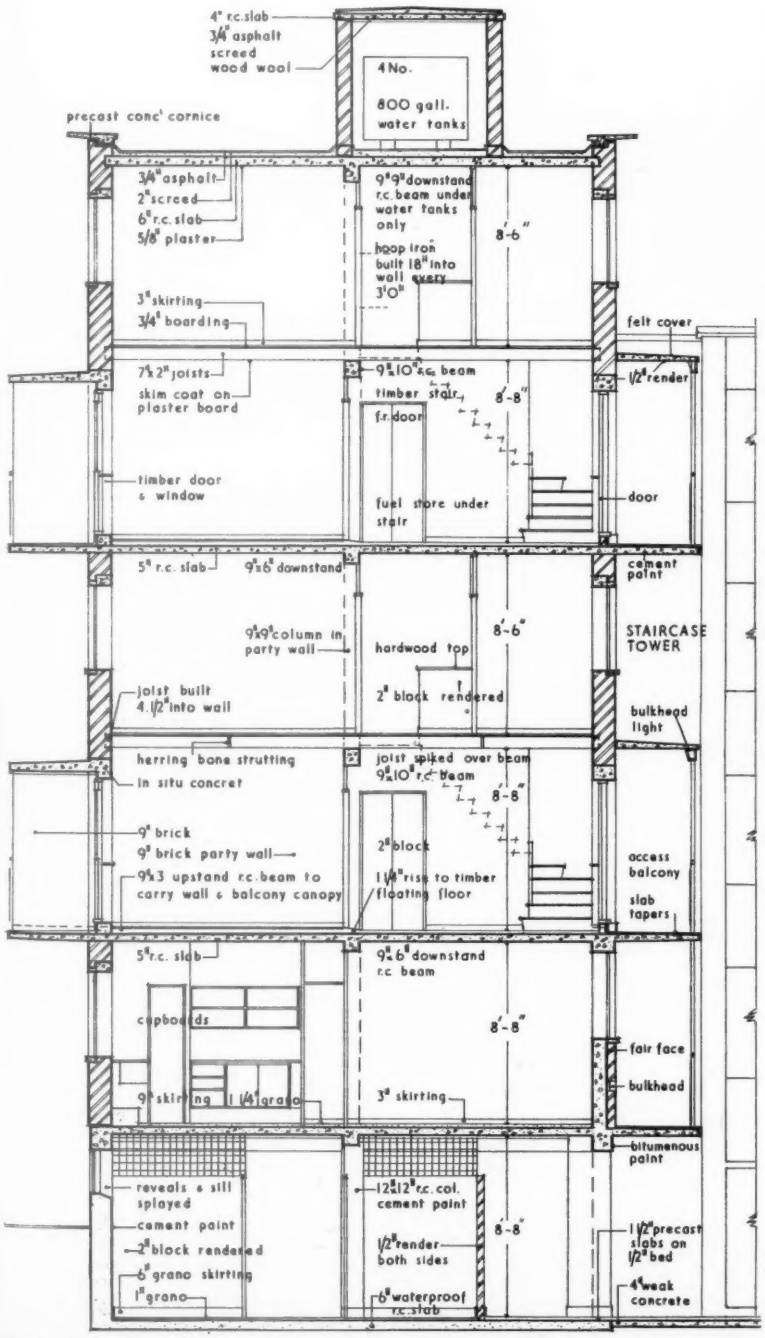
The contract price for the block was £98,500.

The general contractors were Wates Ltd. For sub-contractors see page 204.

Right, the high level block from the south-east. The lamp standard on the left was specially designed for this scheme by the architects. Below right, the central staircase tower on the north facade and access balconies to flats and maisonettes. At ground level is access to high-level stores (see section below).







Section A-A through high level stores [Scale : 1/4" = 1' 0"]

FLATS

in WHITEFOOT LANE, LONDON, S.E.6

designed by FRY, DREW and PARTNERS

FLATS

in BROMLEY ROAD, CATFORD, LONDON S.E.6

designed by FRY, DREW and PARTNERS

consulting engineers, OVE ARUP and PARTNERS

quantity surveyor, OSWALD E. PARRATT

Falkland House is a block of 30 flats on the east side of the main Bromley Road. This is to be widened eventually and, in consequence, the block has been set well back from the road. The site is flat and contains some fine deciduous trees, which have been retained. On the east side of the block are tenants' stores, a gas-heated drying room and a children's playground with gravel surface. There is a concrete approach road to the north.

The four-storey block from the north-west.

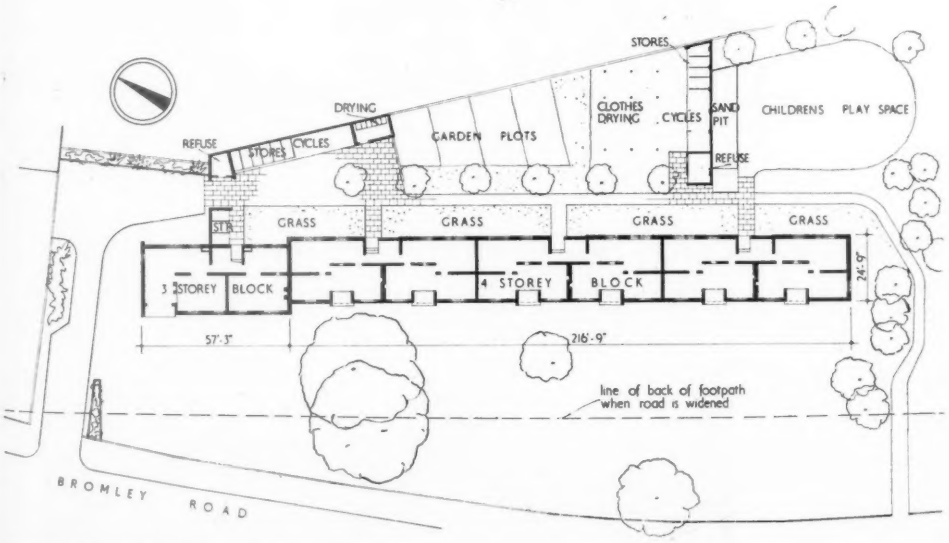




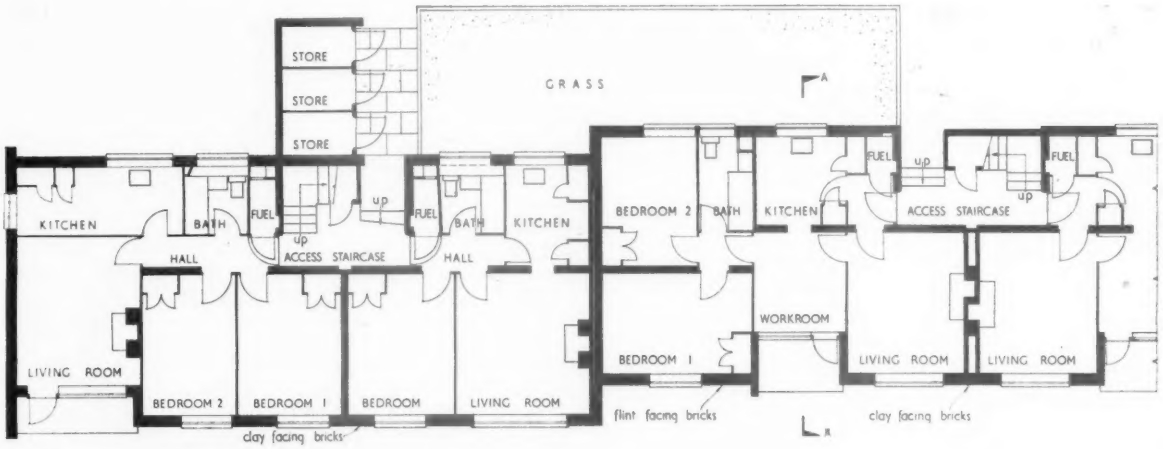
Above, the west facade, which faces the Bromley Road. Variety is given to the facade by two types of facing brick.

PLAN.—The block consists of three one-bedroom and twenty-seven two-bedroom flats, some of which have a separate workroom. For the greater part of its length the block is four-storeys high, but the six flats at the north end are in a wing of three storeys. There is staircase access, each staircase serving two flats on each floor. The majority of the flats have a recessed private balcony on the west side.

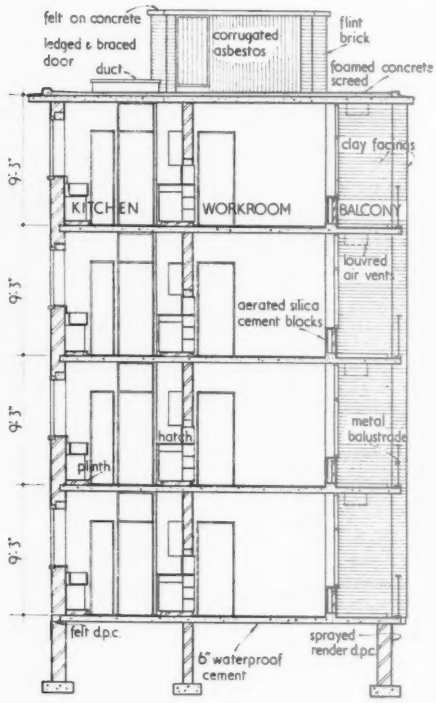
CONSTRUCTION and FINISHES.—The construction is of calculated load-bearing brickwork



Ground floor and site plan [Scale: $\frac{1}{64}$" = 1' 0"]



Part ground floor plan of three- and four-storey blocks [Scale : $\frac{1}{16}$" = 1' 0"]



Section A-A [Scale : $\frac{1}{16}$" = 1' 0"]

FLATS

in BROMLEY ROAD, LONDON, S.E.6

designed by FRY, DREW and PARTNERS

and reinforced concrete floors and roof slabs. Variety is given to the facades by the use of two types of facing brick, of different colour and tone, Uxbridge flint bricks and Highbrooms, clay bricks. The ground floor slab is of 6-in. thick waterproof cement r.c. on weak Portland cement concrete blinding 1 in. thick. Floor finishes are wood composition throughout, except for staircases, which are granolithic.

SERVICES.—There are coal fires in living rooms and hot water is provided by multi-point gas water heaters. Ducts are provided in staircases for telephone cables.

The contract price for the block is £49,300.

The general contractors were Wates Ltd. For sub-contractors see page 204.

Below, the east facade from the north. Extreme right is the break at the junction of the four- and three-storey blocks.



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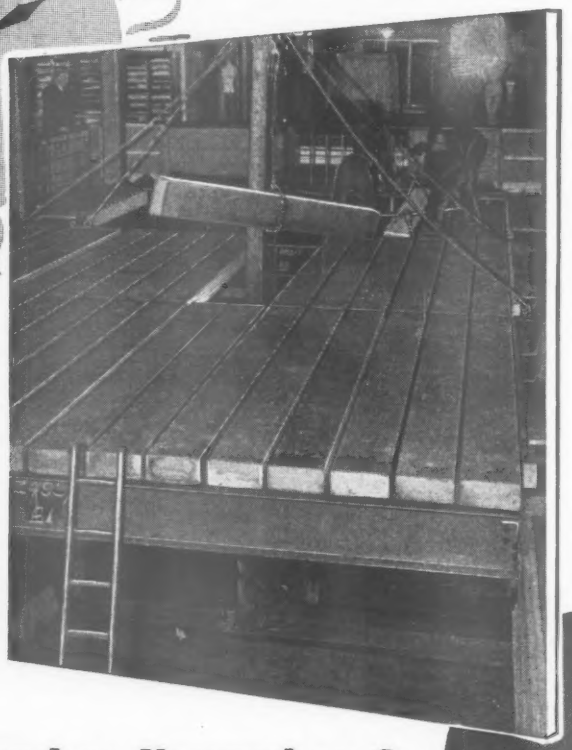
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BETWEEN 2 p.m. Saturday, November 7



Photograph taken at Smalls (House of Fraser, Ltd.) of Edinburgh where Bison Flooring was laid in 12 hours, without interrupting the store's business. Architect: Donald J. Cameron, L.R.I.B.A., F.R.I.A.S. General Contractors: P. Walker & Son.

and 2 a.m. Sunday, November 8 . . .

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Hounslow 0171	Leeds 75421	Lichfield 2404	Falkirk 1585	Craiglockhart 1729

TECHNICAL SECTION

The lunch-hour spectators who surround our city building sites may have noticed some rather thick reinforced-concrete basement walls and ground-floor slabs under construction. The more learned may even have suspected that this is not economic design, nor even saving steel, but a simple precaution against atomic bomb attack. If so, it would be interesting to know who decided what thickness to make the concrete, and who is paying for it. Is a licence immediately granted for this extra work or, more important still, is the licence granted on condition that the precautions are incorporated ? From what source does the requirement come, and at what stage of his planning does the architect first hear of it ? The type of precaution reflects far more in the cost of the small building than the large multi-storey one, especially where the foundation problem is not an easy one in the first place. The cost of this extra construction work must be passed on to the occupier of the building in higher rent, and it would surely make easier the task of both architect and client if some definite, official and publicized lead were given in this matter by the appropriate government department.

This week's survey

9 DESIGN: GENERAL
accommodation of services below ground

The number preceding the week's special article or survey indicates the appropriate subject heading of the Information Centre to which the article or survey belongs. The complete list of these headings is printed from time-to-time. To each survey is appended a list of recently-published and relevant Information Centre items. Further and earlier information can be found by referring to the index published free each year.

Derek Hammett concludes his article on the accommodation of services below ground. Last week he dealt with the various general conditions which affect the different services. This week he considers in detail the problem of ducts.

Ducts can be formed at the same time as the ground floor slab with the following advantages :

(*a*) The various services can be laid in position at any time to suit the general site operations.

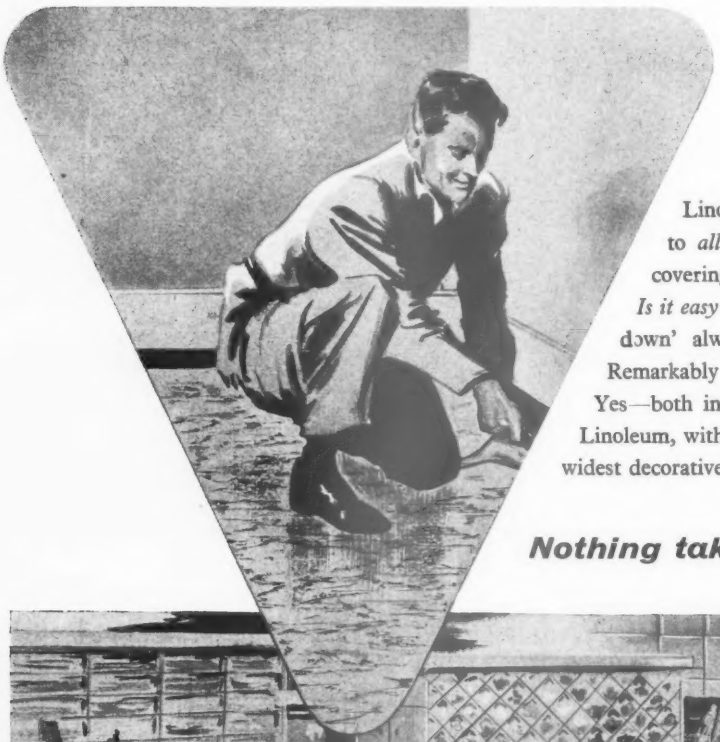
(*b*) The service runs can be more easily executed on a clean working surface.

(*c*) The services can be protected but need not be finally tested and adjusted until towards the end of the job.

(*d*) The services can be kept dry and free from corrosion.

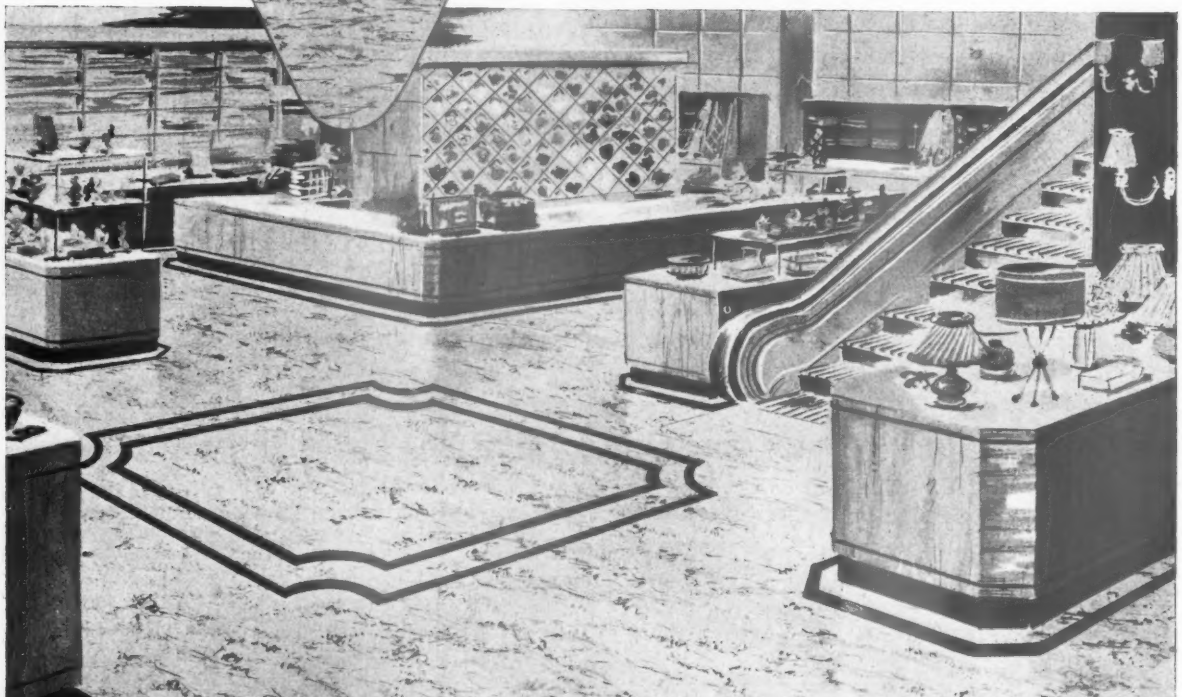
(*e*) Duct runs can be more easily located than individual services.

(*f*) Accessible ducts enable services to



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Types of Duct

Underground ducts can be divided into three basic types :

(1) Continuous working access.
(*a*) Top access. (*b*) Internal access.
(2) Partial working access.
(3) No working access. (*a*) Hollow.
(*b*) Filled.

(1) Continuous Working Access

(*a*) *Top access.* Obtained by continuous removable trench covers in the floor slab. The covers may be of timber, concrete, stone, or in metal trays, filled in, if necessary, to match the adjacent floor finish. (Fig. 1.)

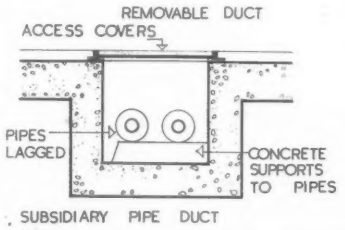


Fig. 1, a continuous duct with continuous access from above.

The services are placed along the bottom of the duct so that when the covers are removed each service is accessible. This is probably the most economical method for small ducts up to about 2 ft. wide (maximum standard width of metal tray is 3 ft.), where light floor loads only are required and regular inspections or frequent changes are likely. Where the duct size is over 3 ft. wide and heavy floor loads are required, then it is probably cheaper to construct an internal access duct.

(*b*) *Internal access.* Continuous internal access is obtained by means of a duct at least large enough to enable a man to crawl along with room to work. (Fig. 2.) The minimum clear working space, excluding space taken up by the services, etc., is 2 ft. 6 in. high by 2 ft. wide. (The Code of Practice recommends a minimum height of 3 ft. 6 in. and a width of 2 ft. 3 in.) The Code of Practice sizes should not be decreased, unless conditions make them impossible. Any sizes less than the minimum stated in this article are useless, as it must be borne in mind that, if screwed joints are used, the following sizes of pipe wrenches are required with room for at least one-eighth of a turn of the pipe :

2-in.	pipe	18-in. wrench
2½-in.	,,	24-in. ,,
4-in.	,,	33-in. ,,
8-in.	,,	34-in. ,,

Adequate access must be made to enable new pipes to be placed into the duct at any time. Provision for electric light in the duct is advisable.

In minimum size crawlways, access for workmen should be provided at not more than about every 100 ft. to reduce the length of crawl. Under certain circumstances, where high-tension electrical cables are involved, the factory inspectorate may require the duct to be 6 ft. 6 in. high so that a man can stand upright and it is advisable to check this at an early date with the factory inspector concerned.

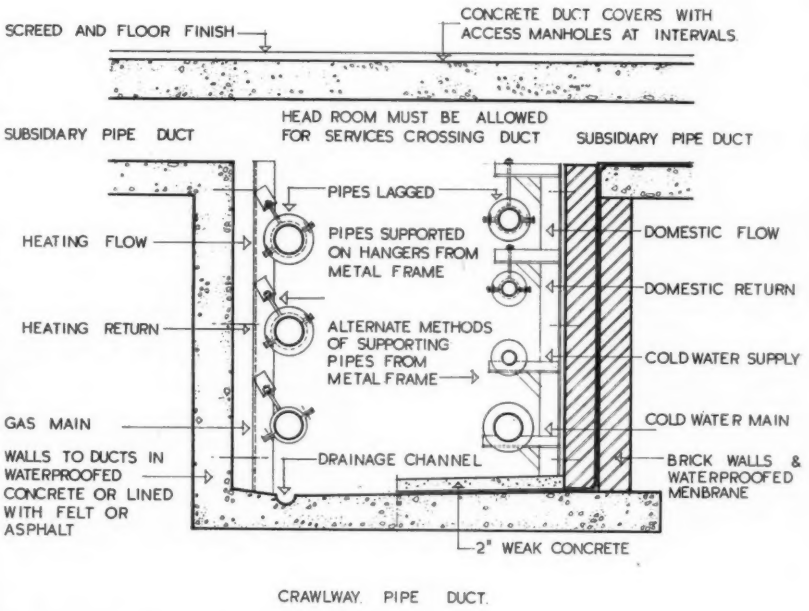


Fig. 2, continuous access duct with crawlway.

(2) Partial Working Access

The duct is designed so that any pipe can be replaced but access is only provided at every joint or branch, say every 20 to 25 ft. to suit the pipe lengths. The services are carried down one or both sides. (Fig. 3.) The best system is to have a withdrawal chamber at every other joint (say 40 to 50 ft. apart) large enough for any pipe to be withdrawn and replaced through an access cover. This would alternate, at the other joints, with a simple manhole chamber large enough for a man to disconnect any pipe.

The withdrawal chambers should not be more than 100 ft. apart, with manhole chambers between each joint, otherwise the pipes have to be dragged

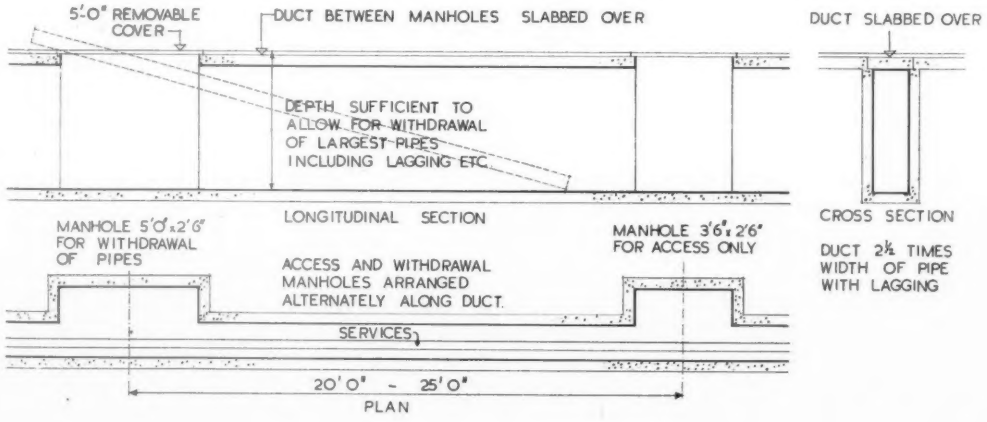


Fig. 3, a duct with partial access only.

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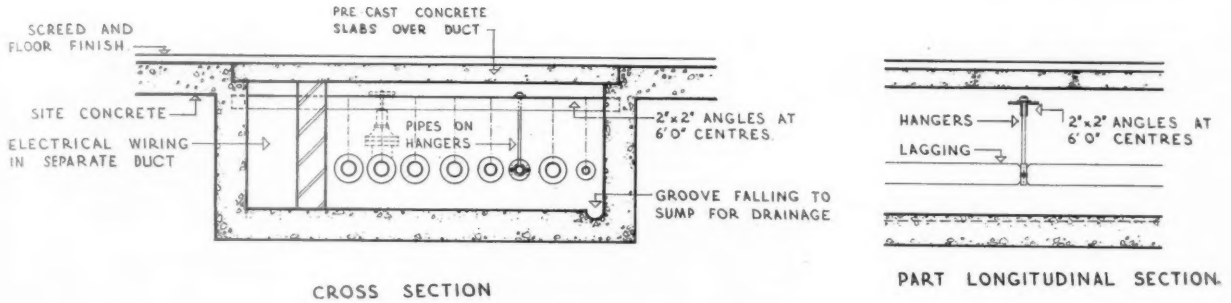


Fig. 4, a duct with no working access.

too far, and in any case expansion loops are usually required at this interval.

The design of this duct depends on the relationship between its depth, the length of withdrawal opening and the overall diameter and length of pipe. This should be carefully worked out to suit the largest pipe and at least 12 in. extra should be added to the depth or length of opening to allow for manœuvrability.

The width of duct should be at least 2½ times the diameter of the largest pipe or service including lagging, flanges, etc.: e.g., assuming the largest service is a 3-in. welded lagged pipe which would give an overall diameter of about 6 in., the duct should be 15 to 18 in. wide. This method is very useful under floors, or roads carrying heavy loads, because of its narrow width, and it is economical if the number of services require the depth in any case. However, it is not very suitable if frequent changes in the services are likely.

(3) No Working Access

(*a*) The duct in this method is usually fairly shallow, between 9 to 18 in. deep with the width based on the number and size of services to be accommodated. (Fig. 4.) The services are usually suspended on hangers from steel members spanning across the duct to enable adjustments in falls to be made easily.

No working access, except to control valves, is allowed for in this duct, and therefore no alterations, etc., can be carried out without breaking up the duct covering. However, it does greatly facilitate site progress ; the duct can be formed at the same time as the floor slab but left open or only temporarily covered, and the services can then be installed under good conditions without undue interference with other work and properly tested just before the duct is permanently covered, usually with precast concrete slabs which are then screeded over with the rest of the floor to receive the final floor finish.

Access covers are only inserted at control valve positions and rarely need to be larger than 12 in. by 18 in.

This type of duct is the most economical, whatever the number of services required, and is satisfactory in buildings where no alterations are likely, or where they can be allowed for in the initial scheme. A duct of this type, averaging 4 ft. wide by 1 ft. 6 in. deep is about 25s. to 30s. a foot run cheaper than an access type duct carrying the same services, and is, of course, considerably cheaper where only two or three services are required.

It is very important to see that all the services are thoroughly tested shortly before the duct is finally covered in and again at the maintenance period inspection.

(*b*) Another method has been satisfactorily used for many years for large heating systems carried under ground.

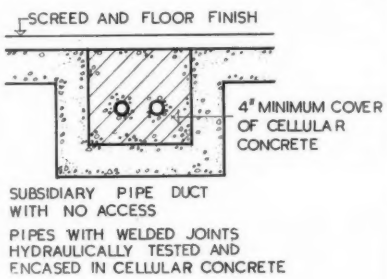


Fig. 5, a duct with no access.

A rough trench, suitably waterproofed, is formed in the ground, the pipes are wrapped in oiled paper to allow for thermal movement and are then surrounded, in-situ, with a 4 in. minimum of aerated cellular concrete which provides the insulation and protection (Fig. 5). Expansion laybyes are formed every 100 ft. with the normal loop which is surrounded with a thick coating of wax before encasing in cellular concrete; the wax will melt as soon as the pipes are heated and space is then left for the necessary movement in the pipe. Alternatively, chambers with access may be formed to house the expansion loops, with the added advantage that it is at these points failures, if any, are most likely to occur.

CONCLUSIONS ON METHODS

There often appears to be little sound reasoning applied to the method adopted for putting services under the ground or under buildings. The services are either buried hopefully in the ground or carried in enormous, expensive ducts, almost large enough to drive along. There is no doubt that, ideally, all services should be completely accessible so that they can be regularly inspected, easily maintained, repaired, altered or extended without unnecessary trouble or expense. Certainly, in the case of many buildings, especially industrial ones, allowance should be made as far as possible to allow for the inevitable changes in requirements. Where services have to be taken under concrete areas, or buildings, the ducts should be of the continuous access type. Generally, the main duct should have internal access, with only the small branch ducts with top access to reduce interference to production caused by the removal of floor covers. It is advisable in these cases to design every duct large enough to allow for some additional services.

There are, however, many buildings such as blocks of flats, offices and schools, where major alterations or additions to the existing services seem most unlikely, but where the number of services may be sufficient to justify, or even require, some form of duct. Here is surely a case for economising by the use of the " No working access " type of duct; admittedly, if a fault does occur, the repair may be expensive, but it is rarely likely to cost as much as the initial saving in capital expenditure.

In smaller projects where only a few services are required and no alterations likely, these services may be buried with reasonable safety and a considerable saving in initial costs.

FACTORS TO CONSIDER

(1) Type, size and number of services required.

(2) Ground conditions such as flooding, chemical content.

(3) Possibility of fracture or damage by heavy loads or vibrations.

(4) Likelihood of alterations or extensions at a later date.

(5) Can alterations or extensions be allowed for, economically, by installing larger pipes ?

(6) Are any services likely to require renewing frequently due to their contents or position ?

(7) Possibility of additional services being required.

(8) The difference in initial costs

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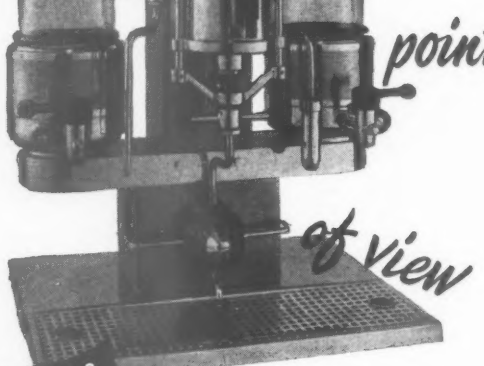
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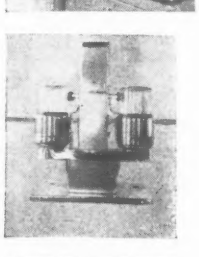
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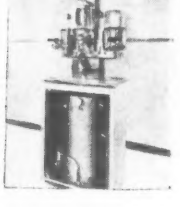
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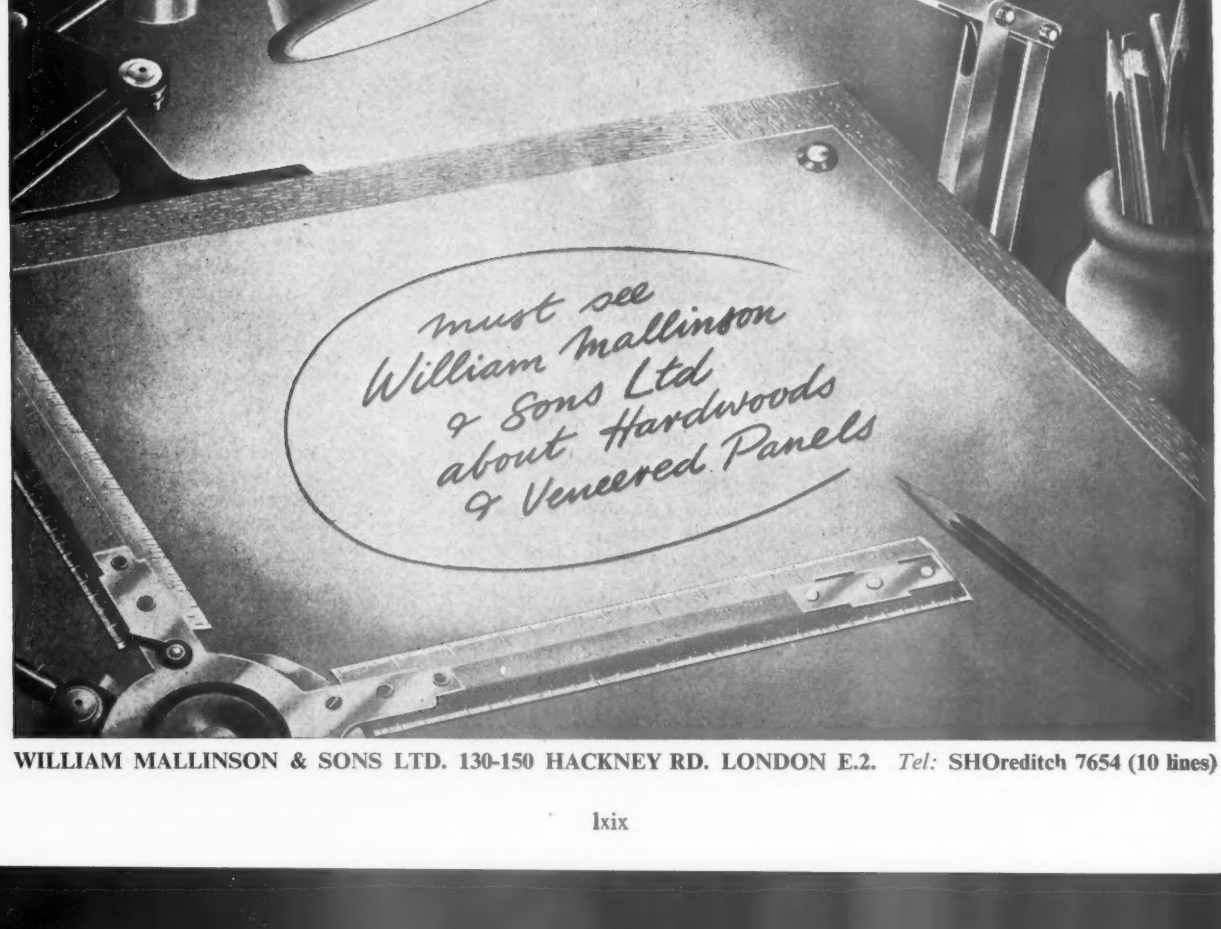




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between the various methods in relation to the cost and inconvenience of making repairs, extensions or alterations.

CONSTRUCTION

The construction of any duct, apart from the type of duct, will depend on the following conditions:

(1) the nature of the ground.

(2) the level of the water table and the water pressure.

(3) the loads to be carried on the floor over, in relation to the span.

Ducts must be waterproof, this can be achieved either by waterproof concrete or by asphalt or bituminous tanking. Tanking is preferable on wet sites.

There are two main systems of construction:

(1) Concrete throughout, reinforced if necessary.

(2) Brick walls with concrete base slab.

Shallow ducts are probably quicker in waterproof concrete throughout, as they can be formed in the same operation as the main floor slab. In cases where the walls have to resist considerable ground pressure, or the ground is unreliable, then reinforced concrete walls should be used.

However, in normal cases, for crawlway ducts the cheapest construction is 9-in. brick walls, consisting of two 4½-in brick skins with 3 layers of bitumin felt between, on a concrete base slab with 3 layers of bituminous felt and a 2-in. concrete screed on top to protect the felt. This type of wall costs about 5s. 6d. per ft. super compared with 7s. per ft. super for a 5-in. reinforced waterproofed concrete wall.

DRAINAGE

Drainage in ducts is not normally essential, although it is advisable, in case of any leaks or faults, to form a fall across the duct floor to a 1-in. deep groove running to an outlet or gulley; the groove need not be laid to a fall.

DOMESTIC SERVICES

The three main supply services, water, gas and electricity are rarely carried in ducts, usually they are taken in the ground and under the surface concrete; the electricity company usually insist on their cable being run in a stoneware or asbestos pipe and, apart from suitable protection against frost, corrosion, etc., there seems to be little reason for anything more elaborate.

The internal distribution of the services has become more complicated by the increasing use of a solid concrete ground floor slab instead of the suspended timber ground floor, which provided a perfect duct.

With concrete ground-floor slab construction, it is ideal to form a shallow trench in the slab to take the services, the trench can be filled with insulating material, e.g., foam slag vermiculite, glasswool or leca. A duct of some type is essential, where heating or hot water pipes have to be taken across the slab, to allow for expansion in the pipe (except for floor panel heating coils which are, of course, laid direct in the concrete or screed.)

Unfortunately even small ducts are fairly expensive, about 4s. per ft. run for a duct about 12 in. wide by 6 in deep.

PIPE SPACING

It is impossible to lay down any hard and fast rule on the spacing of pipes, but as a rough guide, the centre to centre of pipes should be about the sum of the overall diameters of the adjacent pipes including lagging, e.g., a 4-in. external overall diameter pipe alongside a 6-in. external overall diameter pipe should be spaced at about 10 in. centres.

PIPE SUPPORTS

Pipes must be supported at intervals, and the following spacings of supports for steel and heavy gauge copper pipes are recommended:—

up to 1¼ in. at 6 ft. 0 in. centres.
1½ in. to 2 in. at 8 ft. 0 in. centres
2½ in. to 4 in. at 10 ft. 0 in. centres
over 4 in. at 12 ft. 0 in. centres.

However, where economy is vital, the following maximum spacings of supports for steel pipes can be used:

½ in. to ¾ in. at 8 ft.; 1¼ in. at 10 ft; 1½ in. at 11 ft.; 2 in. at 12 ft.; 2½ in. at 13 ft.; 3 in. at 15 ft.; 4 in. at 17 ft.; 6 in. and over at 20 ft.

Light gauge copper pipes should be supported as follows :—

up to ½ in. at 4 ft. centres
¾ in. to 1 in. at 6 ft. centres
1¼ in. to 1½ in. at 8 ft. centres
over 2½ in. at 10 ft. centres.

Lead pipes should be supported continuously, wherever possible. Copper pipes should be supported every 10 ft., maximum. In general, any system of supports must allow for the pipes to move in between anchor points and for varying falls in different pipes. Where the pipes are placed across the width of the duct, they are generally suspended from 2 No. angle supports. These span across the duct by means of hangers, with one end threaded to allow for adjustment in levels, and with a single pipe ring for pipes up to 4 in. and a saddle ring for larger pipes.

Where the pipes are placed along the sides of the duct, the pipe brackets can be built into the walls, but where there are long runs, or numerous pipes, this is not a good system as it makes no allowance for easy adjustment; the best system is a metal framework with either adjustable brackets or fixed cantilever brackets with adjustable hangers. For large services a box frame cradle, with rollers, may be necessary, but renewal of services is then more difficult.

EXPANSION

With hot pipes an allowance for expansion and contraction of ¾ in.-1 in. in 100 ft. run must be made.

The normal method for dealing with this expansion is to form offsets, or loops, every 100 ft. With large pipes the offset should be about 5 ft.-6 ft. long and the loop 4 ft. by 3 ft.

The best construction for these expansion joints is to use copper pipe. Where used in conjunction with steel pipes this must be electrically charged to avoid electrolytic action.

Hot pipes must be firmly anchored half way between expansion bays in order to prevent the expansion building up at one point. With working access ducts, loops should be used in preference to offsets to facilitate the removal or insertion of pipes. The loops should be accommodated in lay-byes.

INFORMATION CENTRE

A digest of current information prepared by independent specialists; printed so that readers may cut out items for filing and paste them up in classified order.

13.114 materials: timber

STRENGTH TESTS ON PLYWOOD

"*The Strength Properties of Plywood.*" Forest Products Research Bulletin. 29. Part 1. (HMSO 1953. 1s. 3d.)

Bulletin describing methods used to measure the various properties of 3 plywoods of a standard thickness and containing results obtained from bending, tension, compression, panel shear and panel impact tests given in form of tables and diagrams. Object is to provide data for architect or manufacturer of relatively unknown timbers which have been applied during the restrictions on imports of Douglas fir plywood.

18.144 construction: Theory

ARCHED ROOF CONSTRUCTION

Corrugated Concrete Shell Roofs. K. Billig. (Bulletin of C.B.R.I. Roorkee. Vol. I. No. 3. Nov., 1953.)

Indian research institute publication dealing with corrugated concrete arched structures for use as storage sheds, factory buildings, hangers and dwellings provides a useful and comprehensive summary of this structural technique. Information is given on the thickness of shell and size of corrugations for various spans and three typical examples are worked out in detail. Materials and prices are quoted in rupees for the various components of a corrugated arch house and a comparison is made with the traditional house. Another section is devoted to the practical aspect of the technique and gives an interesting account of the method of applying hessian to the supporting framework and the application of the layers of concrete. It must be noted that the system is patented.

B

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Buildings Illustrated

Alterations to Shop at 122, New Oxford Street, London, W.C.1, for Alfred Imhof Ltd. (Pages 188-189.) Architects: Tayler & Green, F./F.R.I.B.A. General contractors: Courtney Pope Ltd. Sub-contractors: structural brickwork and plastering, White Bros.; white marble flooring, Fenning & Co. Ltd.; white glazed frostproof tiling, Carter & Co. (London) Ltd.; linoleum to walls and counter front, Catesbys Ltd.; central heating, G. N. Haden & Sons Ltd.; hide to columns, Connolly Bros. (Curriers) Ltd.; electrical installation, metal balustrade, glass signboards, display walls and fittings, electric light fittings, painting and decorating, Alfred Imhof Ltd.; electric light fittings to edge of mezzanine balcony, Merchant Adventurers of London Ltd.; lettering on glass signboards, The Lettering Centre; glazed flower pots, Liberty & Co. Ltd.; chairs, Heal & Son Ltd.; vitreous enamel on door handles, James Bruton & Sons Ltd.; plate glass mirrors, D. W. Price & Son Ltd.; light fittings, Troughton & Young Ltd.; fan, Vent Axia Ltd.; Venetian blind, Venetian Vogue Ltd.; chairs and lamp shade (Le Klint), Story & Co. Ltd.; lamp shade, mats, chair covers, linoleum, Tuttle & Sons Ltd.; neon signs, Courtney Pope (Electrical) Ltd.

Showrooms for Aquascutum Ltd., at 100, Regent Street, London, W.1. (Page 190.) Architect: Michael Rachlis, M.INST.R.A. General contractor: H. N. Barnes Ltd. Sub-contractors; electric wiring, Courtney Pope (Electrical) Ltd.; electric light fixtures, Troughton & Young Ltd.

Flats at Forster House, Whitefoot Lane, Catford, London, S.E.6, for the Lewisham Borough Council. (Pages 191-195.) Architects: Fry, Drew & Partners, F/A.R.I.B.A. Consulting Engineers: Ove Arup & Partners. Quantity Surveyor: Oswald E. Parratt. General Contractors: Wates Ltd. Clerk of Works: D. Fisken. General Foreman: S. Parminter. Sub-contractors: asphalt, The Kent Asphalte Co. Ltd.; bricks, Richard Parton Ltd., and Uxbridge Flint Brick Co. Ltd.; artificial stone, Wettern Bros. Ltd.; glass, J. B. Robinson & Co. Ltd.; gas fixtures, Ascot Gas Water Heaters Ltd.; gasfitting, South Eastern Gas Board; electric wiring, Lewisham Borough Council; plumbing, Ellis (Kensington) Ltd.; sanitary fittings, S. Young & Co. Ltd.; door furniture, Lockerbie & Wilkinson Ltd.; casements, The Crittall Manufacturing Co. Ltd.; plaster, Alan Milne Ltd.; tiling, Carter & Kernahan Ltd.; lifts, Hammond & Champness Ltd.

Flats at Falkland House, Bromley Road, Catford, S.E.6, for the Lewisham Borough Council. (Pages 196-198.) Architects: Fry, Drew & Partners, F/A.R.I.B.A. Consulting engineers: Ove Arup & Partners. Quantity surveyor: Oswald E. Parratt. General contractor: Wates Ltd.; bricks, Uxbridge Flint Brick Co. Ltd., and Highbrooms Brick & Tile Co. Ltd.; special roofings, D. Anderson & Son Ltd.; patent flooring, New Floor Installation Ltd.; gasfitting, South Eastern Gas Board; electric wiring, Lewisham Borough Council; casements, Crittall Manufacturing Co. Ltd.; metalwork, Allen & Greaves Ltd.; shrubs and trees, J. Burley & Sons Ltd.

Corrections

British Railways have ordered 621 ventilating hoods, not 6,210 as reported in the Industry section of the JOURNAL on January 14.

On page 141 of the JOURNAL for January 28 the title and address of the producers of a desk diary containing painting specifications was incorrectly given. This should have read Thomas Smith & Son, Ltd., 238-240, Whitechapel Road.

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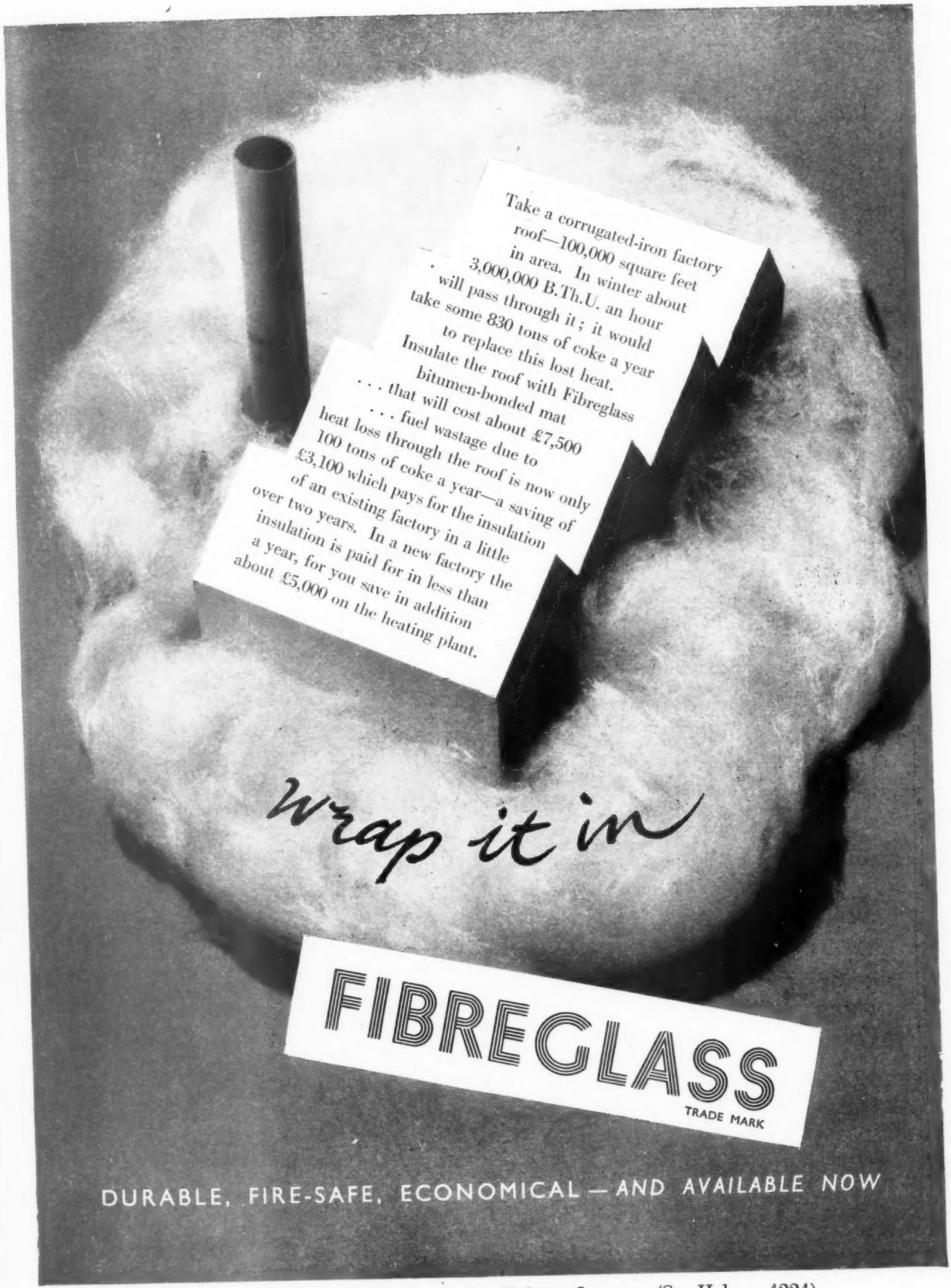
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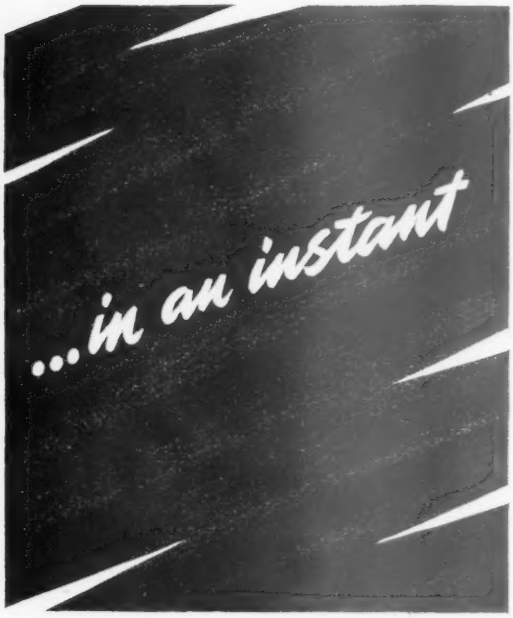
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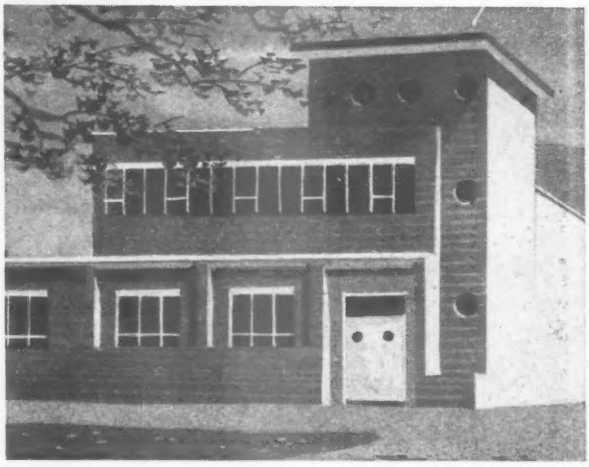
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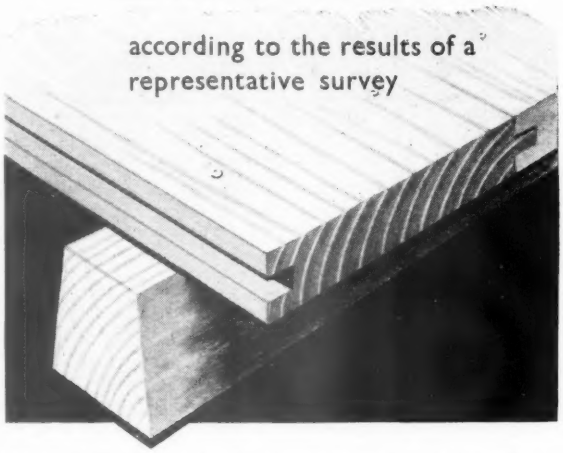
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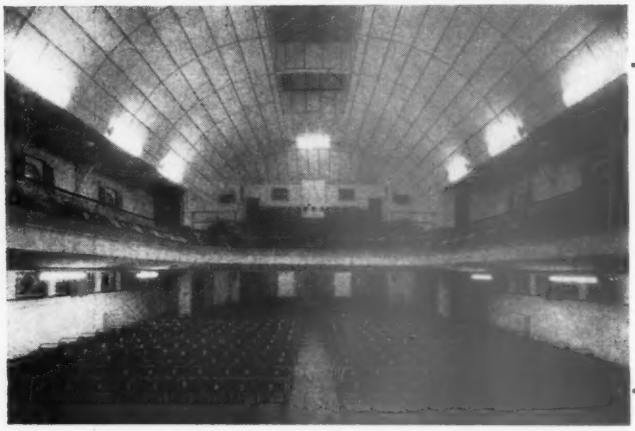
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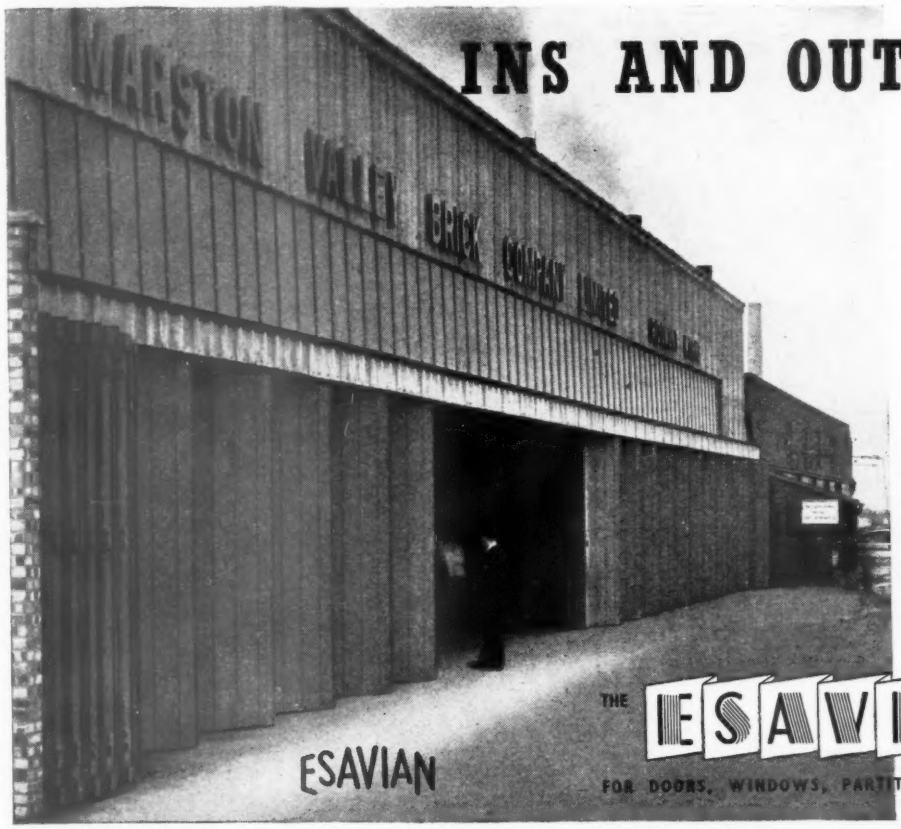


by Esbjørn Hiort, M.A.A., Secretary-General of the Federation of Danish Architects. Translated by Eve M. Wendt.

THIS IS A BOOK for all those who are in any way concerned with housing: it describes the extremely interesting development of Danish housing during the past twenty-two years. It is a readable, authoritative illustrated work on the subject published at the instance of the Danish Housing Ministry. In preparing it the author received much support and assistance from the State, the Municipality of Copenhagen, the Joint Organization of Social Welfare Housing Societies and a number of individual housing societies. There are chapters on The Social Development of Housing; The Economics of Housing; The Technical Aspects of Housing; Dwelling Forms and Design; and Reconstruction and Slum Clearance. The book also contains numerous statistics in tabulated form and includes three appendixes. It is illustrated with photographs, line diagrams and plans. Size 10 ins. by 7 ins. 112 pages illustrated with 33 halftones and 40 line diagrams and plans. Price 21s. net, postage 8d.

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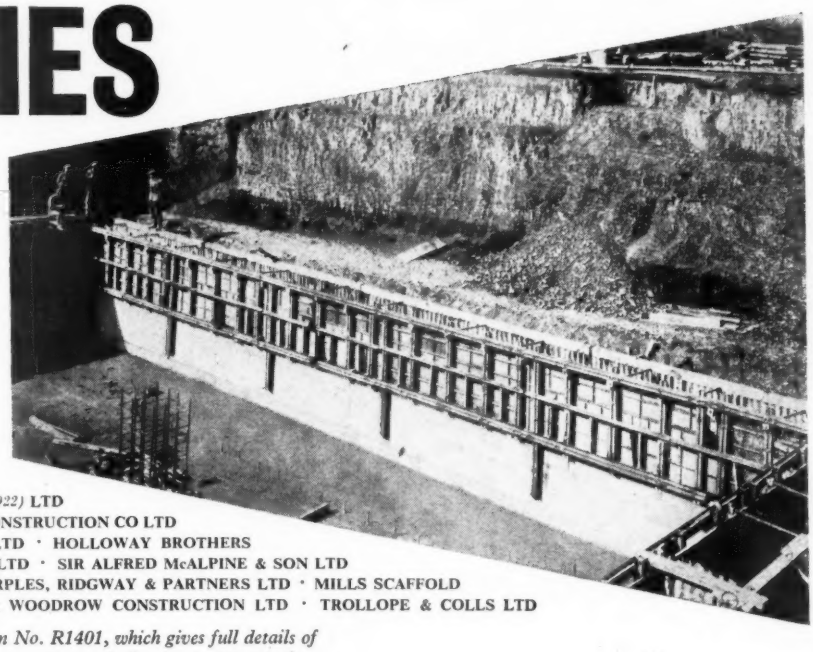
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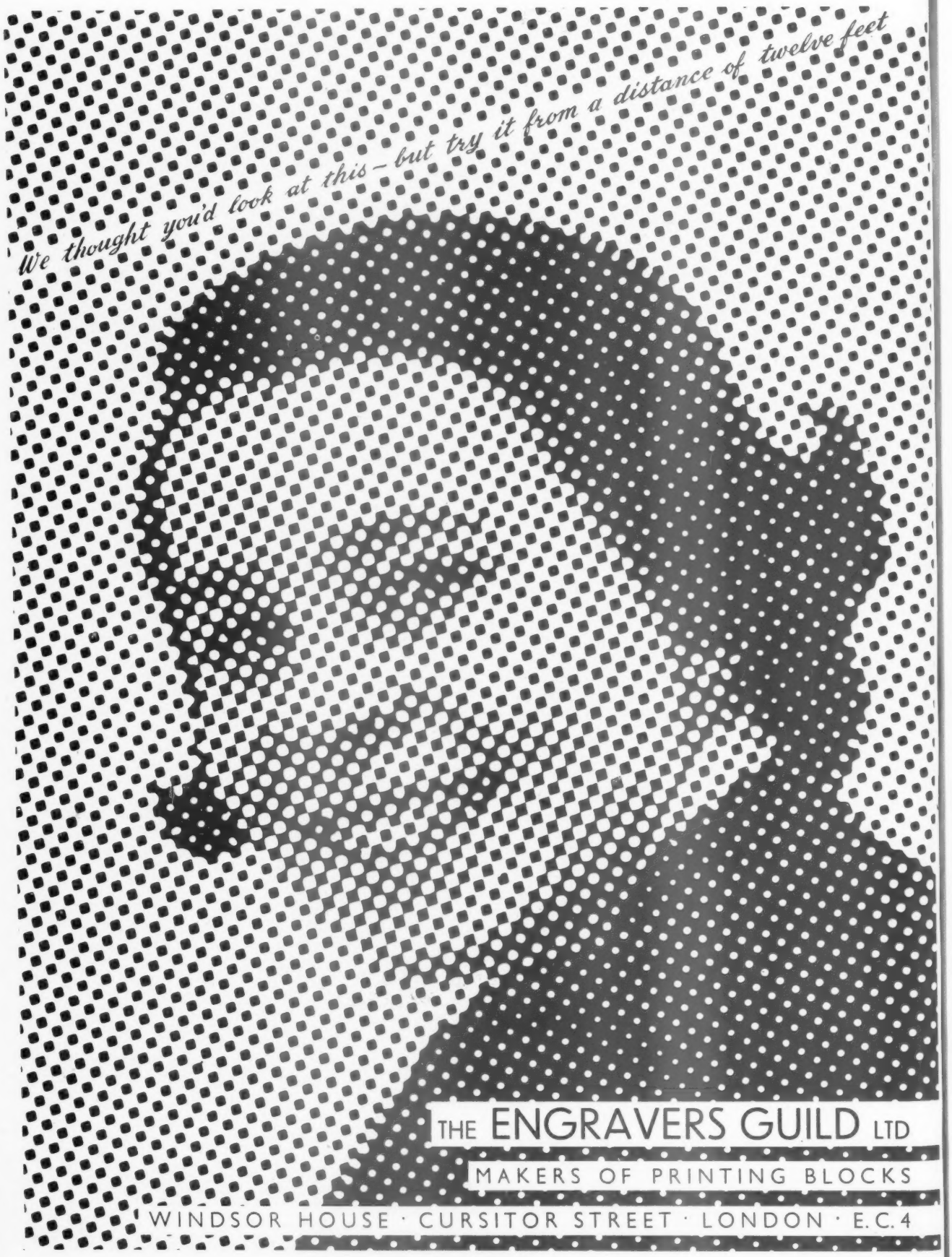


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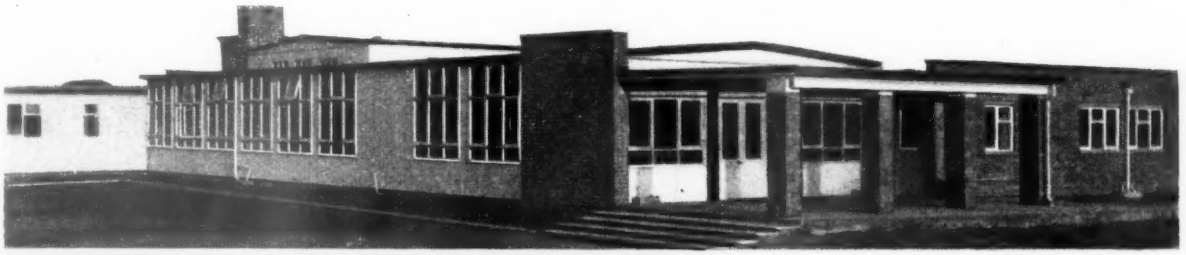
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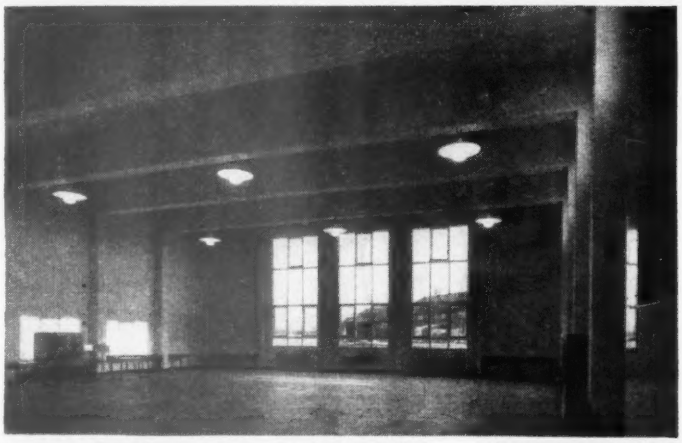
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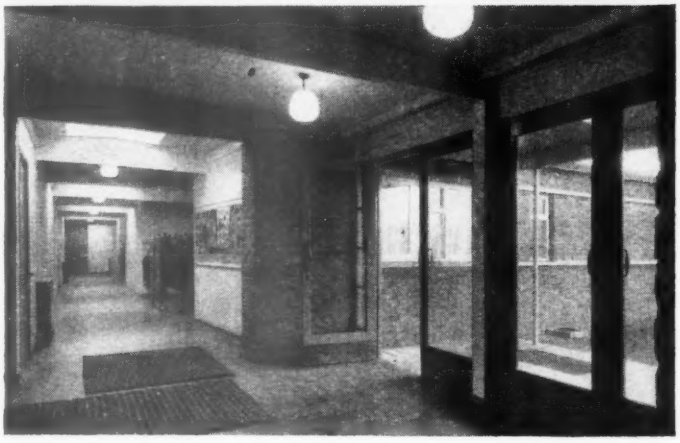

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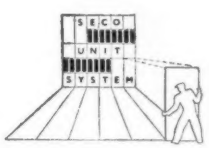
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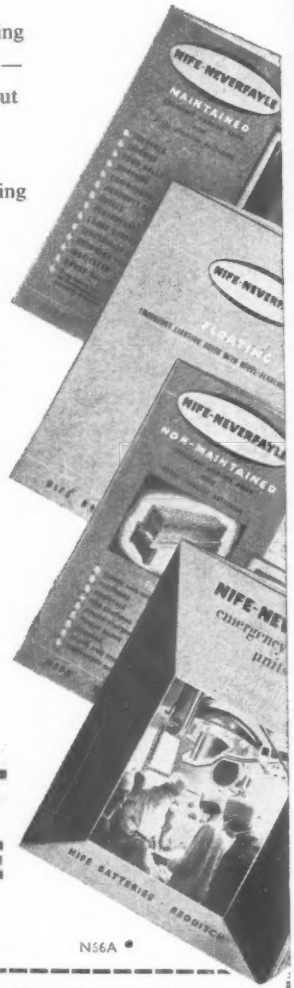
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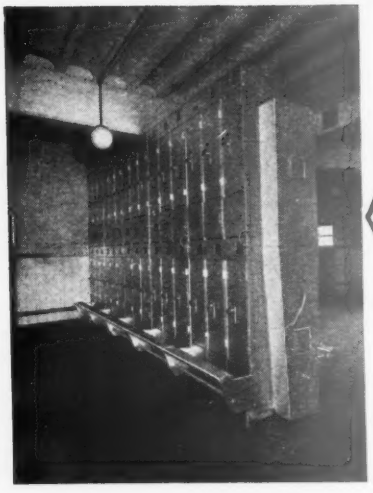
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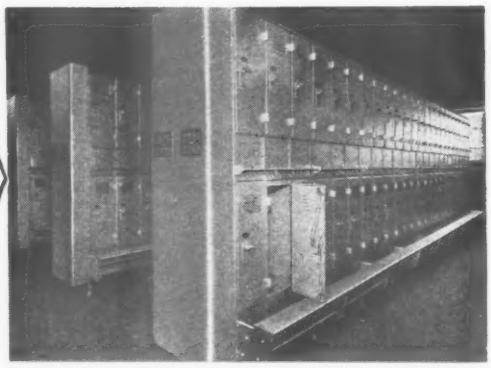
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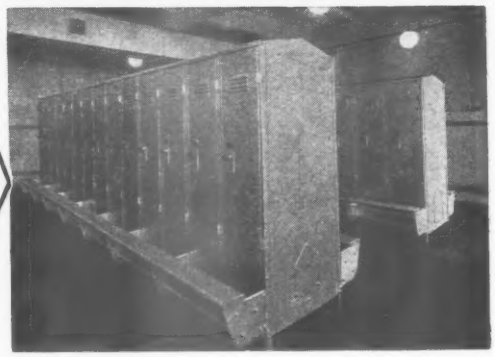


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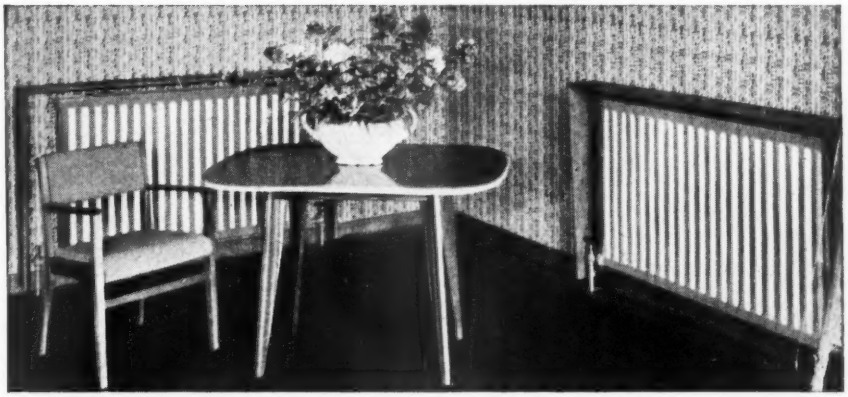


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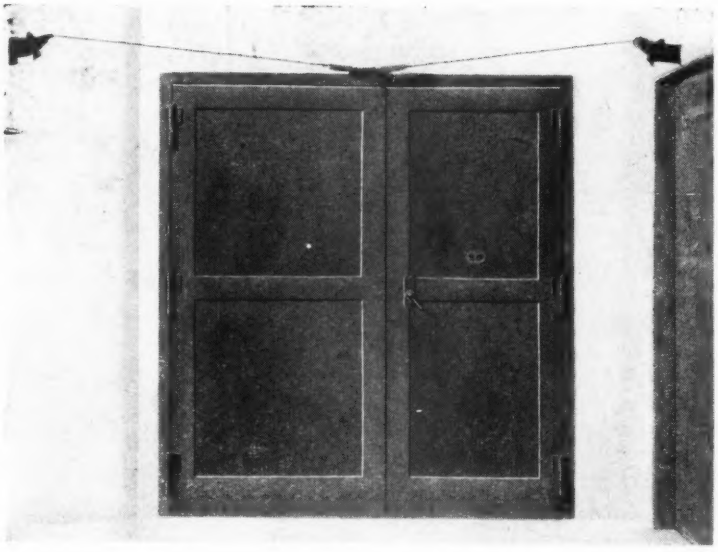
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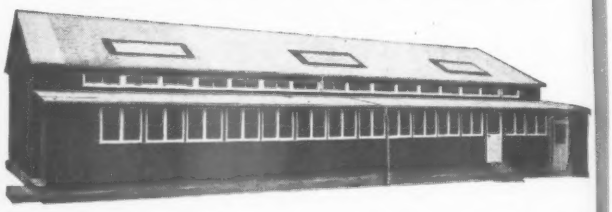
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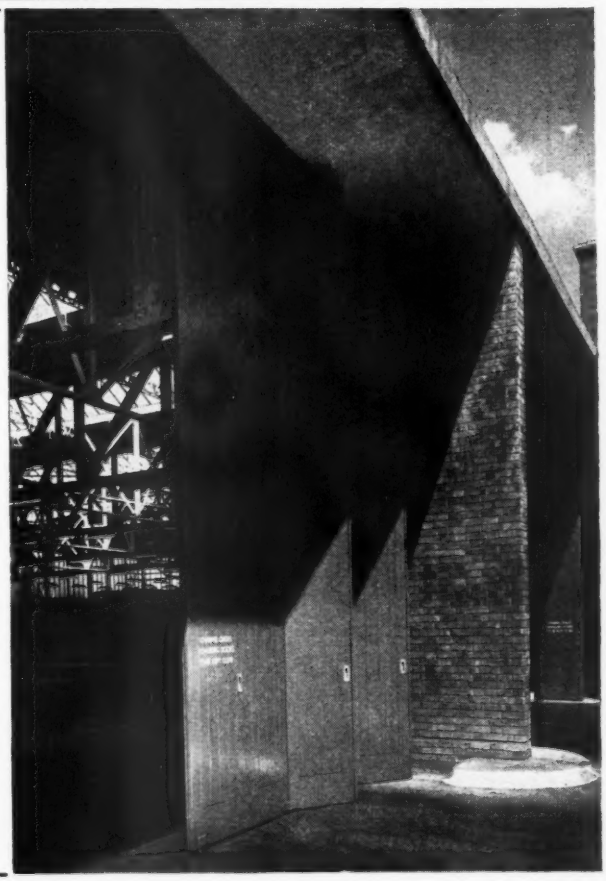
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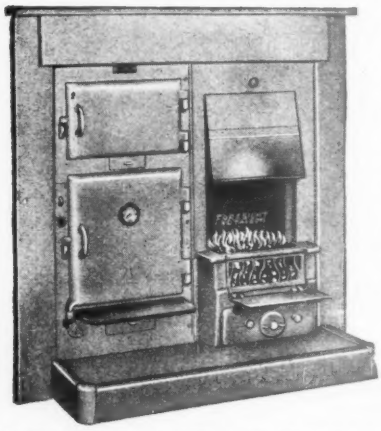
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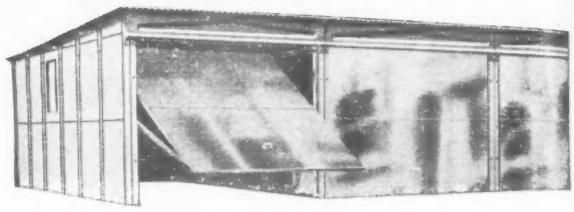
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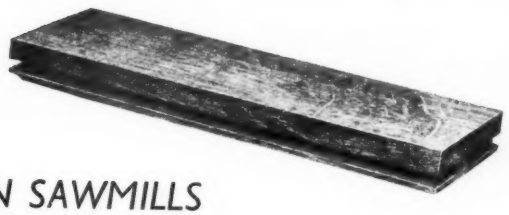
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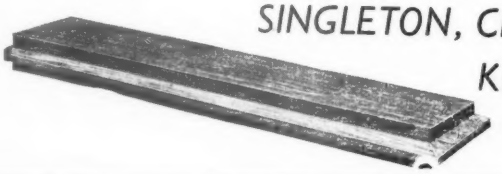
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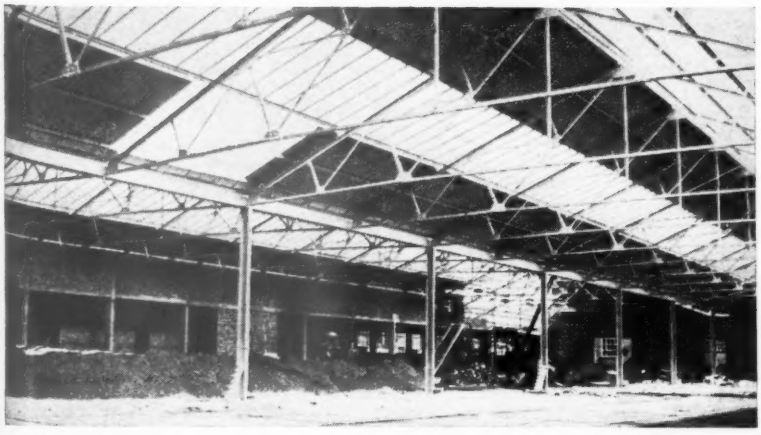
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CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

Public and Official Announcements

25s. *per inch; each additional line, 2s.*

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 *inclusive or a woman aged* 18-59 *inclusive unless he or she or the employment, is excepted from the provisions of the Notification of Vacancies Order,* 1952.

CITY OF NOTTINGHAM.
ASSISTANT ARCHITECT, GRADE 6-7.

Applications are invited from Associates of the Royal Institute of British Architects for the above position in the City Engineer's Department.

The salary will be within Grade 6, i.e., £670-£735, or Grade 7, i.e., £710-£785, according to the successful candidate's experience.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, as amended by Part XI of the Nottingham Corporation Act, 1952. The successful candidate will be required to pass a medical examination.

Applications are to be made on forms to be obtained from R. M. Finch, Esq., O.B.E., M.I.C.E., City Engineer and Surveyor, Guildhall, Nottingham, to whom they should be returned not later than 24th February, 1954.

T. J. OWEN,
Town Clerk.

Guildhall, Nottingham. 1610

PEAK DISTRICT NATIONAL PARK.
DEPUTY PLANNING OFFICER required by Peak Park Planning Board. Salary: £840×£40—£960. Office at Bakewell. Will also be required to assist the Planning Officer in his capacity as Area Planning Officer for Derbyshire County Council for part of north-west Derbyshire. Must be Member or Associate Member of Town Planning Institute; architectural or other technical qualifications desirable; should have considerable practical experience in administration of a Planning Department and in development plan preparation. Application forms and further particulars from Clerk of the Board, County Offices, St. Mary's Gate, Derby. Closing date: Saturday, 6th March, 1954. 1613

LINDSEY COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Vacancies on permanent staff for:—

(a) ASSISTANT QUANTITY SURVEYOR, Grades A.P.T., Va and VI (£625-£735) for person holding Final R.I.C.S., or Grade A.P.T., IV (£555-£600) for person holding Intermediate R.I.C.S.

(b) JUNIOR QUANTITY SURVEYOR, A.P.T., I (£465-£510).

Above salaries increased by £25 at all points from 1st April, 1954.

N.J.C. Conditions of Service. Relationship to member or senior officer of the Council to be disclosed in writing with application. Canvassing will disqualify. Applications, stating age, qualifications and experience, with names of two persons to whom reference can be made, to be sent to undersigned by 16th February, 1954.

A. RONALD CLARK, A.R.I.B.A., A.M.T.P.I.,
County Architect.

County Offices, Lincoln. 1617

COUNTY BOROUGH OF BOURNEMOUTH.
BOROUGH ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for the following appointments:—

TWO THIRD ARCHITECTURAL ASSISTANTS. Salary Grade A.P.T. II, £495-£540 per annum. Applicants should have passed R.I.B.A. Intermediate examination and have had subsequent experience in an architectural office.

The above appointments will be terminable by one month's notice, in writing, on either side and subject to the provisions of the Local Government Superannuation Act, 1937, also to the conditions of service in accordance with the National Scheme.

The successful candidates will be required to pass a medical examination.

No assistance can be offered regarding housing accommodation.

Applications, on forms to be obtained from the Borough Architect, Town Hall, Bournemouth, accompanied by copies of three recent testimonials, to be returned to the undersigned in envelopes endorsed "Staff Achitectural," not later than 10.0 a.m. Saturday, 27th February, 1954.

A. LINDSAY CLEGG,
Town Clerk.

1666

COVENTRY CORPORATION require Architectural Staff, primarily for programme of public buildings:—

5 posts within A.P.T. IV and V.
2 posts within A.P.T. VI and VII.

Salaries according to ability and experience. Application forms, etc., from D. E. E. Gibson, Bull Yard, Coventry, returnable by 26th February. 1676

COUNTY BOROUGH OF GREAT YARMOUTH.
EDUCATION COMMITTEE.
SCHOOLS ARCHITECT'S DEPARTMENT.

Applications are invited from Associate Members of the Royal Institute of British Architects for the appointment of SENIOR ASSISTANT ARCHITECT on the permanent staff. Salary: Grade VII (£710-£785).

Candidates should have a knowledge of modern school design and construction.

The Council are unable to assist with housing accommodation. An allowance of 25s. per week will be paid for a period not exceeding six months, in the event of a married man being appointed who is unable to find accommodation.

Further particulars and forms are to be obtained from the Schools Architect, 22, Euston Road, Great Yarmouth, to whom they should be returned by the 22nd February, 1954.

D. G. FARROW,
Chief Education Officer.

1615

EAST RIDING OF YORKSHIRE COUNTY COUNCIL.

APPOINTMENT OF ASSISTANT ARCHITECTS.

Applications are invited for the appointment of Assistant Architects on the staff of the County Architect's Department, in A.P.T. salary grades III-VI inclusive.

The commencing salaries will be appropriate to professional experience and qualifications.

The appointments are superannuable and subject to the passing of a medical examination.

Applications, giving particulars of age, qualifications, experience, past and present employment (with salaries), and accompanied by copies of three recent testimonials, should be addressed to the County Architect, County Hall, Beverley, and must be received by him not later than 19th February, 1954.

Applicants who replied to a similar advertisement issued in January need not reapply since their applications are at present under consideration.

THOMAS STEPHENSON,
Clerk of the Council.

County Hall, Beverley.
February, 1954. 1635

ROYAL BURGH OF INVERNESS.
BURGH ARCHITECT'S DEPARTMENT.

Applications are invited for the Appointment of Superannuated CHIEF ASSISTANT ARCHITECT—Grade A.P.T. V, £630 to £680. Applicants should be registered Architects, and have had considerable experience in the design and construction of Municipal Housing and usual Local Authority building undertakings. The successful applicant will be required to pass a medical examination and his housing position will be given consideration. Applications giving age, qualifications, present and past appointments with salaries, together with the names and addresses of three referees to be sent to the undersigned within ten days of this publication.

J. BLACKBURN, F.R.I.B.A.(DIP.) T.P., A.M.T.P.I.
Burgh Architect.

11, High Street, Inverness.
3rd February, 1954. 1667

CITY OF LEEDS.
CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

ASSISTANT ARCHITECTS, Grade A.P.T. VIII (£760-£835).

ASSISTANT ARCHITECTS, Grade A.P.T. V (£595-£645).

ARCHITECTURAL ASSISTANTS, Grade A.P.T. III (£525-£570).

TRACERS (MALE OR FEMALE). Candidates should have had experience in either an Architect's office or a Surveyor's office; Grade, General Division; Salary according to age with a maximum at age 30 of £450 per annum in the case of male officers and £360 per annum in the case of female officers.

The payment of salary increments will be subject to satisfactory service and will be granted normally with effect from the 1st April following the completion of six months service.

The appointments are subject to the Local Government Superannuation Acts 1937-1953, and the successful applicants will be required to pass a medical examination.

Application forms may be obtained from the City Architect, Priestley House, Quarry Hill, Leeds 9, to whom they should be returned together with copies of three testimonials by 12 noon, Wednesday, 24th February, 1954.

Canvassing in any form, either directly or indirectly, will be a disqualification.

R. A. H. LIVETT, O.B.E., A.R.I.B.A.,
City Architect.

Priestley House, Quarry Hill, Leeds, 9.
3rd February, 1954. 1665

BOROUGH OF MACCLESFIELD.
APPOINTMENT OF QUANTITY SURVEYOR.
BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of Quantity Surveyor, at a salary in accordance with qualifications and A.P.T. Scales (not exceeding Grade VI).

The Council is prepared to consider the provision of housing accommodation for the successful applicant.

Details and application forms obtainable from the Borough Architect, 3, Jordangate, Macclesfield, to be returned to the undersigned not later than 1st March, 1954.

WALTER ISAAC,
Town Clerk.

Town Hall, Macclesfield. 1657

SWALE RURAL DISTRICT COUNCIL.
ASSISTANT ARCHITECT.

Applications are invited for the appointment of an Assistant Architect, in the Engineer and Surveyor's Department, at a salary in accordance with Grade V of the A.P. and T. Division of the National Scales.

Applicants must be able to undertake the design of houses and site layouts, including the preparation of final plans and working drawings, and must be proficient in the complete process of taking off and billing quantities for new housing, measuring up and settling Contractors' final accounts. Preference will be given to candidates who have passed the Final Examination of the R.I.B.A., or its equivalent.

The Council will consider providing housing accommodation if required. A Travelling Allowance at the rate of £145 per year will be paid, and the applicant must provide and maintain a suitable car.

Applications, endorsed "Assistant Architect," stating age, qualifications, experience, present and previous appointments, together with the names and addresses of two persons to whom reference may be made, should reach the undersigned not later than 18th February, 1954.

BRYAN TASSELL,
Clerk of the Council.

Council Offices, 48, Bell Road,
Sittingbourne, Kent.
2nd February, 1954. 1646

COUNTY BOROUGH OF ST. HELENS.
BOROUGH ENGINEER'S DEPARTMENT.

Applications are invited for the appointment on the permanent establishment of an ARCHITECTURAL ASSISTANT, A.P.T., Grade II (£520-£565 per annum after 1/4/54).

The appointment will be subject to one month's notice on either side, the N.J.C. service conditions, the Local Government Superannuation Acts, and a medical examination.

Candidates must, when making application, disclose in writing whether to their knowledge they are related to any member of the Council or holder of any senior office under the Council.

Applications, stating age, qualifications, present and past appointments, and details of experience, accompanied by two recent testimonials, must be forwarded to M. Ward, M.I.Mun.E., Borough Engineer, Town Hall, St. Helens, not later than Monday, 1st March, 1954.

Canvassing in any form will be deemed a disqualification. 1644

BOROUGH OF BARKING.
DEPARTMENT OF THE BOROUGH ARCHITECT.
APPOINTMENT OF QUANTITY SURVEYING ASSISTANT.

Applications are invited for the appointment of a Quantity Surveying Assistant, Grade A.P.T. II, at a commencing salary of £495 per annum, plus London weighting. Further particulars and form of application may be obtained from the Borough Architect, Town Hall, Barking.

Completed applications should reach the undersigned not later than 9 a.m. on Friday, 19th February, 1954.

E. R. FARR,
Town Clerk.

1637

NOTTINGHAMSHIRE COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.
AREA PLANNING OFFICE, MANSFIELD.

Applications are invited for the appointment of SENIOR PLANNING ASSISTANT, in the Development Control Section, at a salary of £670 to £735 p.a. (£695-£760 from 1st April, 1954).

Applicants should hold the qualification of Corporate Member of the Town Planning Institute, and an additional qualification in Engineering, Surveying or Architecture would be an advantage. Particulars obtainable from the County Director of Planning, Shire Hall, Nottingham, to whom applications must be submitted by 25th February, 1954. Canvassing disqualifies.

K. TWEEDALE MEABY,
Clerk of the County Council.

1639

BRACKNELL NEW TOWN.

Applications are invited for the following appointments:—

1. ARCHITECT, £835 × £50—£985. Applicants should have considerable experience in housing work, including administration of contracts and supervision of drawing office staff.

2. ARCHITECT, £635 × £40—£835. To be engaged on housing.

3. ARCHITECT, £635 × £40—£835. To be engaged on design and construction of projects within the proposed Town Centre.

4. DRAUGHTSMAN, £310—£460.

5. JUNIOR DRAUGHTSMAN. Salary according to age and experience within the Grade £160—£250 p.a.

Superannuation schemes. Medical Examination. Housing available in due course. Apply by 26th February, 1954, giving age, education and qualifications; experience and appointments held (with dates and salaries) and 2 referees to General Manager, Bracknell Development Corporation, Farley Hall, Binfield, Bracknell, Berkshire. 1677

DORSET COUNTY COUNCIL require ASSISTANT ARCHITECT (A.P.T., Grade V—£595-£645). Candidates must be suitably qualified.

Application forms from the Clerk, County Hall, Dorchester, to be returned by 17th February, 1954. 1638

EAST KILBRIDE DEVELOPMENT CORPORATION.

The Corporation invite applications for Architects, Quantity Surveyors and Engineer, as follows:—

ARCHITECTS

(1) SENIOR ARCHITECT—Grade I.
Salary scale £980 × 3 at £40 and 1 at £30 to £1,130 per annum. Applicants should be fully qualified and experienced architects capable of directing and supervising a section of the building work of the Corporation. They should have experience in the design and construction of residential areas and the handling of large contracts. Preference will be given to applicants who are members or associate members of the Town Planning Institute.

(2) SENIOR ARCHITECT/PLANNER—Grade II.
Salary scale £870 × 4 at £30 and 1 at £20 to £1,010 per annum. Applicants should be fully qualified architects and members or associate members of the Town Planning Institute. The post is available on the Planning Section of the Architectural Department.

(3) ARCHITECTS FOR DESIGN AND PLANNING SECTIONS.
Salary scale £660 × £30 to £870 per annum. Applicants for Design Section should be Associate members of the R.I.B.A. and for Planning Section should also be Associate members of the T.P.I. All applicants should have had at least two years' qualified experience.

(4) JUNIOR ARCHITECTURAL ASSISTANTS.
Salary scale £490 × £25 to £565 per annum. Candidates should be probationer members of the R.I.B.A.

(5) APPRENTICE ARCHITECTS.
Salary scale £175 to £245 per annum.

QUANTITY SURVEYORS

(1) QUANTITY SURVEYORS—Grade II.
Salary scale £660 × £30 to £870 per annum. Candidates should have passed the final examination of The Royal Institution of Chartered Surveyors. They should be qualified as Quantity Surveyors and have had substantial and varied experience in measuring from plans, preparing schedules of quantities, measuring work on completion and agreeing final accounts, etc., in the carrying out of contracts.

(2) ASSISTANT SURVEYORS.
Salary scale £550 × £25 to £625 per annum. Candidates should have passed the Intermediate Examination, Sub-Division III (Quantities) of The Royal Institution of Chartered Surveyors and should have acquired a knowledge and experience of the duties required of a Quantity Surveyor, as above.

(3) JUNIOR ASSISTANT SURVEYORS.
Salary scale £490 × £25 to £565 per annum.

ENGINEER

ASSISTANT ENGINEER

Salary scale £550 × £25 to £625 per annum. Candidates should have passed Sections A and B of A.M.Inst.C.E. examination or Intermediate Examination of The Institute of Municipal Engineers. They should have experience in surveying and levelling and in the design of estate roads, sewers and services. They should preferably have local authority experience.

The commencing salary in each case will be in accordance with qualifications, experience, etc. The appointments are subject to the Corporation's Conditions of Service and Superannuation Agreement. Selected candidates will require to pass a medical examination. A house will be made available if required. Application forms may be obtained from the General Manager, Torrance House, East Kilbride, Lanarkshire, to whom they should be returned not later than 27th February, 1954. Canvassing, directly or indirectly, of the members of the Corporation will constitute an absolute disqualification. 1625

BOROUGH OF MAIDSTONE.
APPOINTMENT OF JUNIOR ARCHITECTURAL ASSISTANT IN BOROUGH SURVEYOR'S DEPARTMENT.

Applications are invited for the above appointment from candidates who have completed their period of National Service, at a salary in accordance with Grade III (£525 to £570 per annum).

Candidates must be neat and accurate draughtsmen, with general architectural experience; previous success in a part or parts of the Intermediate Examination of the R.I.B.A. will be an advantage.

The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts, the passing of a medical examination, and one month's notice on either side. The Corporation cannot undertake to assist in any way with the provision of housing accommodation. Canvassing will disqualify.

Applications on forms to be supplied, giving the names of two referees, must reach the undersigned not later than the 20th February, 1954.

S. F. DIXON,
Borough Surveyor.

Borough Surveyor's Department, Palace Avenue, Maidstone.
5th February, 1954. 1646

MALVERN URBAN DISTRICT COUNCIL require CHIEF ARCHITECTURAL ASSISTANT, A.P.T., VI (£695-£760). Applications, stating age, qualifications, experience, and previous appointments, with names of two persons to whom reference may be made, in envelopes endorsed "Chief Architectural Assistant," to be forwarded to The Clerk of the Council, The Council House, Malvern, not later than 24th February, 1954.

Candidates must have passed the Final Examination of the R.I.B.A. 1659

THE URBAN DISTRICT COUNCIL OF FELLING.
CHIEF HOUSING OFFICER'S DEPARTMENT.

Applications are invited for the following appointments:—

(*a*) ARCHITECTURAL ASSISTANT. Salary: Grade A.P.T., Va, to A.P.T., VI. Applicants should have passed the Final Examination of the Royal Institute of British Architects.

(*b*) ENGINEERING ASSISTANT. Salary: Grade A.P.T., Va, to A.P.T., VI. Applicants should have passed the Final Examination of the Institution of Municipal Engineers or Sections A and B of the examination of the Institution of Civil Engineers.

(*c*) QUANTITY SURVEYOR. Salary: Grade A.P.T., Va. Applicants should have passed the Final Examination of the Royal Institution of Chartered Surveyors (Quantities).

(*d*) JUNIOR QUANTITY SURVEYOR. Salary: Grade A.P.T., III. Applicants should have passed the Intermediate Examination of the Royal Institution of Chartered Surveyors (Quantities).

The appointments are to be made in connection with the development of a Neighbourhood Unit to accommodate approximately 12,000 persons, and although the same are temporary it is anticipated that they will extend over a minimum period of six years.

The Neighbourhood Unit will comprise some 3,500 houses, with shops, cinema, churches, swimming baths, licensed premises, and schools and a community centre.

Forms of application, together with particulars and conditions of employment, can be obtained from the undersigned, to whom they should be returned not later than Monday, the 22nd February, 1954.

Applicants should state whether they desire housing accommodation. Canvassing will disqualify any applicant.

JOHN DONKIN,
Clerk of the Council.

Council Buildings, Felling, Gateshead, 10. 1658

LONDON COUNTY COUNCIL.
HAMMERSMITH SCHOOL OF BUILDING AND ARTS AND CRAFTS

VICE PRINCIPAL and Head of Department of Architecture, Building, Structural Engineering and Surveying. Applicants should have both teaching and industrial or professional experience and hold a recognised qualification of graduate status. Burnham salary scale: £1,315 × £25—£1,465 (includes V/P allowance, £125), plus London allowance £36 or £48, according to age. Application forms from Secretary at school, Lime Grove, W.12, for return by 26th February. Replies to previous advert will be reconsidered if applicants notify Secretary. 1622

BRITISH ELECTRICITY AUTHORITY.
EAST MIDLANDS DIVISION.

Applications are invited for the following positions within the Division.

CIVIL ENGINEERING DRAUGHTSMEN, CONSTRUCTION DEPARTMENT. (Vacancy No. 1/54.)

Candidates should have experience in design and detail of reinforced concrete structures, piled and slab foundations for heavy plant, culverts, cable subways, etc., for general building construction drainage and sanitation schemes, associated with official and administrative buildings.

The salary will be in accordance with Grade 5 (£567-£671 per annum) or Grade 6 (£433-£567 per annum) of Schedule D of the National Joint Board Agreement.

ENGINEERING DRAUGHTSMEN MECHANICAL), CONSTRUCTION DEPARTMENT. (Vacancy No. 2/54.)

Senior Draughtsmen are required in the Mechanical Section of the Construction Department at North Wilford Power Station. Candidates should have experience in one or more of the following:—

(i) Design and layout of Power Station equipment, including turbo-alternators, boiler plant, coal and ash plant, and general station auxiliaries.
(ii) H.P. and L.P. steam and feed pipework. Condensing plant and feed heating systems.
(iii) Conveyor plant, coal handling systems and material handling of station auxiliary equipment.

Salary and conditions of service will be in accordance with the National Joint Board Agreement Grade 5 (£567-£671 per annum) and Grade 6 (£433-£567 per annum) of Schedule D according to experience.

ENGINEERING DRAUGHTSMEN (ELECTRICAL), CONSTRUCTION DEPARTMENT. (Vacancy No. 3/54.)

Candidates should have experience in the preparation of layouts and diagrams for the installation of E.H.T. and L.T. Switchgear, transformers, E.H.T. and L.T. cables; knowledge of protective gear systems would be an advantage.

The salary will be in accordance with Grade 5 (£567-£671 per annum) or Grade 6 (£433-£567 per annum) of Schedule D of the National Joint Board Agreement.

The above positions will be pensionable within the provisions of the British Electricity Authority and Area Boards Superannuation Scheme.

Applications should be submitted on the official form which may be obtained from the Divisional Establishments Officer, British Electricity Authority, Barker Gate, Nottingham, and should be returned to the undersigned. Please quote Vacancy Number.

L. F. JEFFREY,
Divisional Controller.
1621

HUYTON-WITH-ROBY URBAN DISTRICT COUNCIL.
ARCHITECT.

Applications are invited for the established position of Architect. Applicants must be Associates of the Royal Institute of British Architects, or holders of a degree in Architecture of a British University, and must have a thorough knowledge of architectural work with practical experience in the design and development of public buildings of all types, flats and houses, and must be capable of controlling, as a Chief Official, the separate Architect's Department recently established by the Council.

The appointment will be subject to the Superannuation Acts; to the passing of the necessary medical examination; and the Conditions laid down by the Joint Negotiating Committee for Chief Officials of Local Authorities. The salary will be on the range commencing at £1,050 per annum, rising by four equal annual increments to £1,250.

Applications, accompanied by the names and addresses of three referees, must be sent to the undersigned in envelopes clearly marked "Architect," so as to arrive not later than the 5th March, 1954.

Any relationship to a Member or Chief Officer of the Council must be disclosed, and canvassing is a disqualification.

The question of providing living accommodation will be considered by the Housing Committee, if necessary.

(The District is a rapidly developing area with a population of about 57,000.)

H. E. H. LAWTON,
Clerk of the Council.

Council Offices, Huyton, Lancs.
February, 1954. 1649

BOROUGH OF WATFORD.
BOROUGH ENGINEER'S & SURVEYOR'S DEPARTMENT.
AMENDED ADVERTISEMENT.

Appointment of:—

(*a*) CHIEF ASSISTANT QUANTITY SURVEYOR;

(*b*) ASSISTANT ARCHITECT. A.P.T. II-IV.

Applications are invited for the above permanent appointments.

Applicants for post (*a*) should hold an appropriate professional qualification and be accustomed to the preparation of Bills of Quantities, Specifications, Estimates, and settlement of accounts in connection with Housing Estates, Public Building and general building work under the Local Authority.

Salary within Grade A.P.T. VIII of the National Scale, £760-£835 p.a.

The Council may provide HOUSING accommodation in connection with this post.

Applicants for post (*b*) will be graded according to qualifications and experience.

Forms of application from the undersigned, returnable by 15th February, 1954.

F. C. SAGE, A.M.I.C.E., M.I.Mun.E.,
Borough Engineer & Surveyor.

Town Hall, Watford. 1648

HERTFORDSHIRE COUNTY PLANNING DEPARTMENT.

PLANNING ASSISTANT, Grade V. A.P.T., (£620-£670).

Applicants must be Associate Members of the Town Planning Institute. General experience in a Planning Department and skill in the preparation of estate layouts, and detailed planning proposals are essential.

University degree or qualifications in architecture, engineering or surveying an advantage.

Application forms from the County Planning Officer, County Hall, Hertford, to be returned by 27th February, 1954. 1680

DENBIGHSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT, WREXHAM.

Applications are invited for the appointment of ASSISTANT QUANTITY SURVEYOR (Inter R.I.C.S.), A.P.T. V. (£595-£645). Candidates should have experience in 'taking-off' and 'working up' in all trades. Further details and application form may be obtained from the undersigned, to whom the completed forms are to be returned by 3rd March, 1954.

W. E. BUFTON,
Clerk of the County Council.

County Offices, Ruthin. 1636

BOROUGH OF BEDFORD.

Applications are invited for the following appointments in the Borough Engineer and Surveyor's Department.

(a) Appointment of ASSISTANT ARCHITECT —Grade A.P.T. III-IV (£525-£600).

(b) Appointment of ASSISTANT QUANTITY SURVEYOR—Grade V-Va (£595-£685).

Applicants for appointment (b) must be qualified A.R.I.C.S. (Quantities Section) or equivalent qualification and be experienced in the preparation of the Bills of Quantities, interim valuations, and final accounts for all types of building work.

The appointments are subject to passing a medical examination, to one month's notice in writing on either side and the successful candidates will be required to contribute to the Superannuation Scheme.

Application forms and any further particulars may be obtained from the undersigned, and should be returned completed not later than 1st March, 1954.

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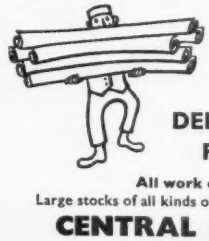
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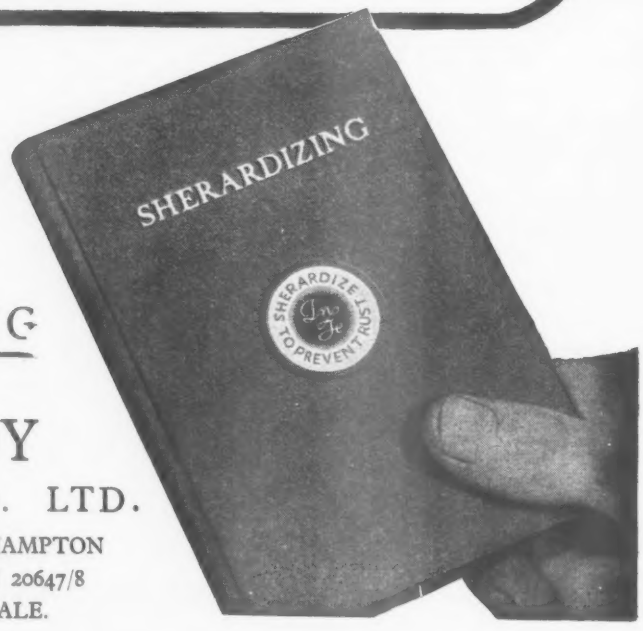
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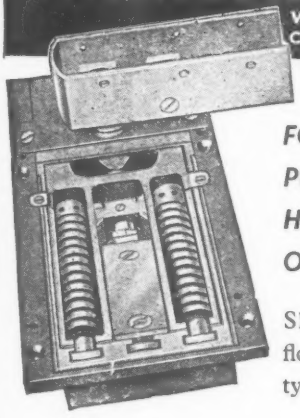
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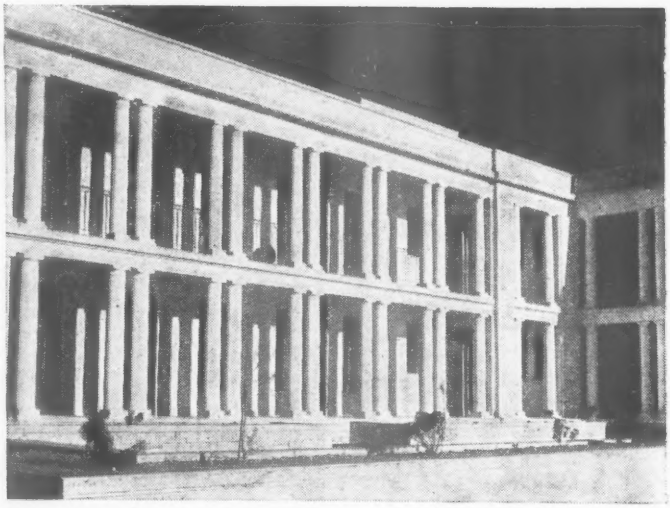
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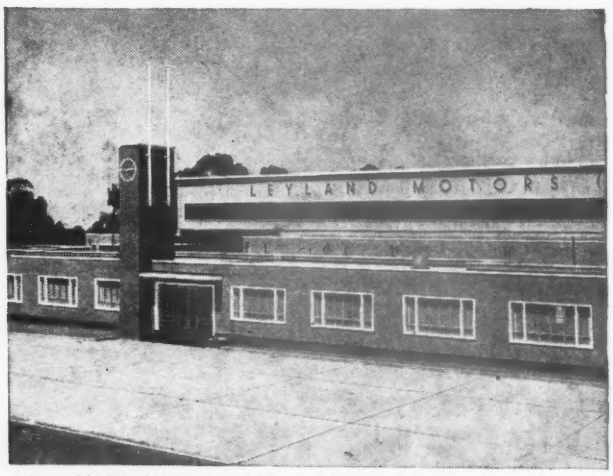
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